Vol. II

TRANSCRIPT OF RECORD

Supreme Court of the United States

OCTOBER TERM, 1942

No. 332

LEROY J. LEISHMAN, PETITIONER,

vs.

ASSOCIATED WHOLESALE ELECTRIC COMPANY, A CORPORATION

ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE NINTH CIRCUIT

PETITION FOR CERTIORARI FILED AUGUST 24, 1942.

CERTIORARI GRANTED OCTOBER 12, 1942.

No. 9970

United States

Circuit Court of Appeals

For the Ninth Circuit.

LeROY J. LEISHMAN,

Appellant,

vs.

ASSOCIATED WHOLESALE ELECTRIC COMPANY, a Corporation,

Appellee.

Transcript of Record

In Three Volumes

VOLUME II

Pages 287 to 505

Upon Appeal from the District Court of the United States for the Southern District of California, Central Division.

PARKER PRINTING COMPANY, 543 SANSOME STREET, SAN FRANCISCO

ALLAN R. ELLSWORTH,

called as a witness on behalf of plaintiff, being first duly sworn, was examined and testified as follows:

The Clerk: Will you state your name?

A. Allan Ellsworth.

Direct Examination

Q. By Mr. Flam: Any middle initial, Mr. Ellsworth? A. Roger.

Q. Mr. Ellsworth, you are appearing here in obedience to a subpoena? A. Yes, sir.

Q. Where do you live, Mr. Ellsworth?

A. In Los Angeles.

Q. What is your present occupation?

A. Chief engineer of Packard Bell Company.

Q. Is that a radio manufacturing company in Los Angeles? A. Yes, sir.

Q. How long have you been employed by the Packard Bell Company? A. Seven years.

Q. Previous to that time had you had any experience in connection with radio developments?

A. I have been in the radio field since 1923.

Q. In a professional or an amateur capacity?

A. Professional. [296]

Q. Can you state in general what that experience comprised?

A. Well, in 1923, built and operated a broadcast station for a period of time, 15 months; after that I was in the radio retail business and service per-

(Testimony of Allan R. Ellsworth.)

haps a year; after that I was in the United States Marine Corps for several years, three years. I was in radio in the Marine Corps, including instructor of the Marine Corps Institute; and after being in the Marine Corps I was in the Merchant Marine for three year as radio operator; and I have since that time been in the radio manufacturing business.

Q. What are your duties with the Packard Bell Company?

A. Design of receivers, general supervision, including production, purchases, etc.

Q. Did you ever hear of automatic tuning for making if possible to bring in radio receiving sets to tune with broadcasting stations?

A. Certainly. For some time we have had push-button tuning units, perhaps two or three years.

Q. Previous to two or three years ago, Mr. Ellsworth, had you had any experience in connection with automatic tuning for radio receiving sets?

A. Well, the only unit I know of is this unit right here, this Zenith push button.

Q. You are referring to Plaintiff's Exhibit 3?

A. Yes. [297]

Q. What do you know about that unit? I mean by that——

Q. By the Court: Which did you refer to, which one?

A. This one here.

(Testimony of Allan R. Ellsworth.)

Q. The Zenith? A. The Zenith.

Q. By Mr. Flam: I mean by that, do you know when it went on the market approximately?

A. Well, I believe it was approximately '27 or '28. I was not very closely associated with broadcast radio receivers at that time and was not particularly interested; so I am not sure on that point.

Q. Do you know whether or not it stayed on the market for any appreciable length of time?

A. Well, my contact with it was that the reaction, generally, was it was quite cumbersome and impractical, and it did not stay on the market very long.

Q. Do you know of any other type of automatic tuning device that came along after the Zenith device shown by Plaintiff's Exhibit 3?

A. Motor-operated devices were probably the first ones I noticed after that time, and they were operated by commutator arrangement controlling the motor, the commutator arrangement being fastened to the unit.

Q. Those were not mechanical push-button radio tuners at all, as I gather?

A. I wouldn't say they were. [298]

Q. Were there any mechanically operated push-button tuners about that time or a little later?

A. I don't recall of any.

Q. I have in mind what they used to call the telephone dial?

(Testimony of Allan R. Ellsworth.)

A. Oh, that was later.

Q. When was that?

A. I think Philco was probably the first receiver I noticed with that unit; and that was, I think, in the same year, later on in the same year that the electric unit came out.

Q That would be about when, about 1930, or thereabouts?

A, It would be possibly about '37.

Q. Will you explain in general how that telephone dial arrangement was supposed to operate?

A. They had a cam lock device that, when the finger was brought around to the stop position, would fix the pre-set indexing arrangement to that position.

Q. Was that telephone dial type of tuning device sufficienty accurate by itself to be utilized commercially?

A. It did not appear to be so because the receivers that had it used automatic frequency control in conjunction with it to compensate for inaccuracies —mechanical inaccuracies that is.

Q That is, there was some kind of a circuit that [299] would pull the set into tune?

A. Yes. There was an automatic circuit device which would retune the receiver into the proper resonance position. That was purely electrical in operation.

(Testimony of Allan R. Ellsworth.)

Q. After this telephone dial development was there any other type of mechanical tuning that you became familiar with?

A. This treadle bar type was probably the next unit.

Q. I call your attention to Plaintiff's Exhibit 8, and ask you if you know whether that is what you have reference to in your answer.

A. That is the unit. We used several thousand of those.

Q. By "we" do you mean the Packard Bell?

A. The Packard Bell Company.

Q. When did you first start to using that unit?

A. I believe about August or September in 1938.

Q. And where did you purchase, do you know, these units?

A. I didn't hear that question.

Q. Where were these units purchased, such as Exhibit 8?

A. In the beginning they were purchased from the Quality Hardward & Supply, and later from Crowe Name Plate.

Q. Did that unit operate satisfactorily in connection with the tuning in of radio sets?

A. Yes; it did.

Q. By the Court: You say it did. Does it still? [300] Do you still use it?

A. We do not use it today, one of the reasons

(Testimony of Allan R. Ellsworth.)

being because of the cost making it necessary to change to other methods.

Q. By Mr. Flam: You do not use the treadle bar system at all now?

A. Not today. I would like to explain that point a little differently. We, naturally, as manufacturers in the competitive field had to do something in the way of automatic tuning because the competition made it necessary to produce such a unit. We didn't do anything for about six months because there wasn't a unit on the market that was sufficiently accurate and yet economical enough for our use. It was not until this unit was located,——

Q. You mean Exhibit 8?

A. Yes; this particular unit.—that we considered it a practical device for our use; and the practical part of it was covered by several things, one being that it had to be accurate, and the other being that it had to be simple to operate and adjust by anyone in the field, that is, a service man or a layman buying a receiver.

Q. You did not use any special tuning circuits with this system, as I understand it, using the treadle bar system?

A. No. It was aligned by gear. It was accurate enough so it would maintain—— [301]

Q. By the Court: Then what system did you change to?

A. We changed to a unit, another mechanical unit which was mounted on the tuning unit, known

(Testimony of Allan R. Ellsworth.)

as the Defiance unit, made by American Steel Package. It was a belt type unit. I don't see it here.

Q. By Mr. Flam: As I understand it, that Defiance unit incorporated in one integral mechanism, you might say, the condenser with the push button, is that right, or with the tuning buttons? [302]

A. Yes. I can explain that, too, a little further. In using this unit——

Q. By Mr. L. S. Lyon: You are referring now to Exhibit 8?

A. This unit; yes.

Mr. Flam: Exhibit 8.

A. This unit in itself is merely a device for pre-indexing anything that may be connected to it, whether it is a tuning unit or what it is. Now, we had to add onto this, of course, the connecting mechanism to the tuning unit. That meant a certain amount of production supervision and a certain amount of added expense in the connecting parts, etc, to connect it to the tuning unit. That totaled to a cost in excess of what this other mechanical unit was that was offered to us because it had been pre-assembled in the factory that made the tuning unit.

Q. By the Court: Do I understand that your concern really assembles its parts from different manufacturers and then puts out its radio; is that it? A. That is true.

Q. You haven't any engineering department of your own where you develop your own ideas into your radio?

(Testimony of Allan R. Ellsworth.)

A. Oh, yes; we do. We develop our own ideas but the radio manufacturing industry today is very largely an assembly proposition. Not all manufacturers—in fact, just a few manufacturers manufacture some of the material [303] they use; but mostly they assemble it. That applies to most manufacturers.

Q. That is what you are doing?.

A. Yes; we are doing that, too.

Q. Have you ever tried to develop a tuner of your own?

A. We worked on it somewhat, but our production being so limited we decided that the tooling charges would be so high that it would not be practical for us to manufacture any of our own.

Q. So you went out into the market to acquire the use of a tuner that you could assemble into your production? A. That is right.

Q. By Mr. Flam: It was not necessary, as I understood your answer, to use an automatic frequency control with the Quality units, such as Plaintiff's Exhibit 8? A. No.

Q. Did you use this——

The Court: What do you call that, Mr. Flam, automatic——?

Mr. Flam: Automatic frequency control. I think it has been mentioned once or twice as sort of a supplemental compensating device.

The Court: I know it has.

(Testimony of Allan R. Ellsworth.)

Q. By Mr. Flam: Did you use that Defiance unit in the Steel—what did you call it?

A. American Steel Package. [304]

Q. ——American Steel Package very long in the Packard-Bell organization?

A. We used that during 1939, the entire year.

Q. And not after? A. Not after.

Q. What are you using now, do you know?

A. We are using electrical push button units. By that, I mean units that are electrically adjusted to the stations and merely a switch is the push button arrangement.

Q. If I understand you correctly, you mean there is a special switch for each station that you woud want to tune in? A. That is correct.

Q. And each switch would control a separate tuned circuit? A. That is right.

Q. Is that right? A. That is right.

Q. There would be no mechanical tuning in operation whatever?

A. No; there is no mechanics whatever connected with that, other than the mechanics of the switch itself, which is merely a push button type of switch.

Q. How does that compare in accuracy with the mechanical tuners that you had been using?

A. Well, I don't believe it is any more accurate than [305] the mechanical tuners.

Q. By the Court: Why do you use it?

A. The main reason we use it is because the

(Testimony of Allan R. Ellsworth.)

mechanical unit has certain possible failings, and that is, when a push button is not pushed all the way in by the user the indexing does not take place and therefore the station does not become tuned to that indexed position; whereas, in the electrical unit if they just push the button in at all it hits a catch and maintains its position at that point, and a user then has the station and he can't just push the button part way in.

Q. Then, the electrical device from the public's point of view is a better device for public use?

A. Well, I think that would be putting it a little broadly.

Q. Then, why would you change unless there was some advantage to the user, because, after all, you are manufacturing your product for the ultimate consumer, are you not?

A. That is true. I would say that the mechanical unit, by further additions, could become as practical in the same sense as the electrical unit. The electrical unit has certain things which are a disadvantage to it and we hope some day to be able to go back to the mechanical units when that one small objection is overcome. We had been hoping that the inventors would devise a means of adjusting that to [306] a fixed position automatically similar to what is occurring in the electrical unit. There is this disadvantage in the electrical unit: Once the button is pushed for the station it has to come on the station; no further adjustment can be made excepting

(Testimony of Allan R. Ellsworth.)

by the prearranged adjustment, with a screw-driver or instrument, and that is a special tool. And in a mechanical unit, if it does not come exactly on the station, supplemental tuning can be had by merely taking the knob and turning it further until you are exactly on the station. The user therefore does not have complete disuse of buttons if the adjustment is not correct. In the electrical unit, unless the user knows how to adjust them, he has to call a service man each time and that is somewhat of a disadvantage; and that is why I said it was a little broad to say that it was in the public's interest to have an electrical unit entirely. It is more costly, of course, too.

Q. By Mr. Flam: I call your attention to a dial on this radio set chassis, Exhibit 22. You see this dial with the numbers on it, 55 to 170?

A. Yes.

Q. What do those numbers mean on that dial?

A. They indicate the kilocycles of tuning range of the receiver.

Q. 55 would mean what?

A. 550 kilocycles. [307]

Q. And then 170 at the other end of the scale would mean 170 kilocycles?

A. No; 1700 kilocycles.

Q. 1700 kilocycles.

A. The zero is dropped off because there isn't room enough, as you see, to put the zeros on there.

Q. I call your attention to the fact that on this

(Testimony of Allan R. Ellsworth.)

dial the distance between the numbers 55 and 60, or, rather, the numbers are crowded much closer together at the right-hand side of the dial.

A. What you mean is that there is approximately a hundred kilocycles spread—in fact, practically two hundred kilocycles spread on one end of the dial at one distance, where there is fifty kilocycles spread on the other.

Q. Is that a common condition in connection with radio sets?

A. Yes. That is uniform, practically, in all receivers, that is, if they are of the standard practice of design.

Q. They all conform to that pattern?

A. Which would be about 99 per cent. of the receivers.

Q. That there is a crowding together of the kilocycles at the right-hand end?

A. Yes; that is true.

Q. When you tune into a station by the aid of a dial, such as I am demonstrating now, if you want to tune into a [308] station, say, at the point of 90 kilocycles how closely must you tune to the 90 kilocycles, in order for the set to be substantially in tune?

That would be 900, not 90 kilocycles.

Q. Well, 900 kilocycles.

A. Theoretically, it has to be perfectly tuned in order not to have distortion.

(Testimony of Allan R. Ellsworth.)

Q. Are there any tolerances permitted at all?

A. If designed further back in the receiver, that is, if it has a super-hetrodyne in the I. F. stages, it calls for flat tops in the I. F. amplifier, there is a deviation without too much distortion; that is, for everyday use, for layman's use, I should say.

Q. How much would be the maximum deviation permitted that you know of?

A. Well, I should say, possibly plus or minus three kilocycles would be about the maximum.

Q. In other words, supposing it were tuned into 15,000 kilocycles at the right-hand end of the scale; if that should be misaligned to tune into 15,003 kilocycles or 14,997 kilocycles, the set would be out of tune and would not properly reproduce the sound of the broadcasting station; is that what you mean?

A. Well, you would get a distorted result in the receiver. That is, you would have——

Q. By the Court: Why do I get two stations around 900? [309]

A. That becomes a little involved, your Honor.

Q. By Mr. Flam: Did you answer that question?

Mr. L. S. Lyon: Maybe the court would not if he had a Packard-Bell set.

The Court: Maybe I can show them one where I can get two stations.

The Witness: A Packard-Bell?

The Court: I am not saying, but I am just making that comment.

(Testimony of Allan R. Ellsworth.)

The Witness: That is what it sounded like to me, your Honor.

Q. By the Court: What is the difference between Packard-Bell and a Mission Bell? [319]

A. It is a different manufacture entirely.

The Court: Well, I have a Mission Bell.

A. I could say that that is the reason, if I wanted to be commercial.

Q. By Mr. Flam: Did you want to add to this answer, Mr. Ellsworth?

A. Well, roughly speaking, a 16-kilocycle band is about as wide a band as is practical to use in broadcast receivers, without having interference from other stations; and if 5 kilocycles is allowed for either side for your tone, good tone quality of reception, that would leave you 6 kilocycles which you could split plus or minus 3 kilocycles to give you approximately that much deviation. Of course, that means that the I. F. has to be flat-topped in order to be at all practical, and a critical listener could even then tell that there was distortion.

Q. We are talking about a 3-kilocycle deviation from the accurate number of kilocycles. Looking at this Crosley dial on Exhibit 22, how much of a movement would that require of the pointer in relation to the dial to throw you off that much?

A. I would say that you could hear it being off tune before you could see it. It would be very difficult to say just how much. It would be a very, very small amount because we have there 100 kilocycles

(Testimony of Allan R. Ellsworth.)

in only about a quarter of an inch. 3 kilocycles out of that would be a [311] very small movement.

The Court: Mr. Flam, isn't it obvious that it is necessary to have an accurate tuning device?

Mr. Flam: Well, especially——

The Court: Of course, I assume that the purpose of this testimony so far is to develop the fact of the necessity of having a tuning device so that, when it ties in, it ties to an exact point, without variation.

Mr. Flam: Not only that but the important part of it is that it is necessary to make it possible to set each individual button accurately. After a button is set——

The Court: One follows the other. You have to set it accurately or, if you don't set it accurately, of course, the apparatus wouldn't work accurately.

Mr. Flam: That is the point I am trying to make. The difficulty we are confronted with here is not whether the push button brings the pointer to the same position all the time but how easy it is to set it so that it will be set accurately in the first place to that point.

The Court: All right; proceed.

Mr. Flam: I have just a few more questions on this line.

Q. I refer again to Plaintiff's Exhibit No. 8, this treadle bar tuner. In what position would the treadle be corresponding to the right-hand part of

(Testimony of Allan R. Ellsworth.)

the scale of a radio receiving set where the kilocycles are crowded together? [312]

A. It would be in the extreme angular position.

Q. When you get radio sets ready for shipment, does the manufacturer perform the operation of setting the buttons for mechanically tuning the sets?

A. The manufacturer, primarily, is engaged in production of quantities and doesn't know beforehand whether the receivers are going to be sold and it would be very impractical to try to adjust the buttons to a present position for the user. It would become practically custom set building if you tried to do that.

Q. By the Court: In other words, they are made up so that they can be set by the dealer after he receives them to meet the needs of his particular trade? A. Yes, your Honor.

Q. In other words, if you are shipping to Texas or Arizona, the dealer down there would set those tuning devices to accommodate particular broadcasting stations that they wished to use or customarily used?

A. That is right, your Honor. As a matter of fact,——

Q. So it would be impractical, when you manufacture them, to make a positive setting? For instance, take 900 here, KHJ, if you take it a few miles from here, it couldn't be used, could it?

A. It may be nonexistent at that point.

(Testimony of Allan R. Ellsworth.)

Q. Yes; nonexistent or couldn't be used?

A. Yes. [313]

Q. And, after they get out of the range of that particular broadcasting station, they may want to tie in some other broadcasting station to that particular button? A. That is correct.

The Court: That is obvious. It is also obvious that it is important that in the tuning device it be made simple so that it can be set. It is an advantage. You can't get away from that.

Mr. Flam: If your Honor please,—

The Court: I am just making that comment. As far as this court is concerned, you are introducing some evidence that is self-evident.

Mr. Flam: I was leading up to one other point, your Honor.

The Court: Very well; I don't want to interfere.

Q. By Mr. Flam: Along these lines that his Honor has been questioning you about, if your company, for example, was selling sets which would make it difficult for the ordinary user to adjust with respect to the push buttons, so that they might be adjusted accurately, would you consider that a commercial product?

A. No. It wouldn't be practical to manufacture something which required special attention after it left our hands. Among other reasons we don't maintain a service department and guarantees is that it would become so clogged in trying to satisfy cus-

(Testimony of Allan R. Ellsworth.)

tomers that it wouldn't be practical [314] to even market them. We have to be very careful in the devices we make, that they at least can be operated by a layman or a relatively inexperienced service man or dealer. [315]

Q. Supposing you had to take care as to the amount of pressure you would have to use on the screw that would tighten the adjusting or positioning means, would that be practical for use by the general public or inexperienced users?

A. Since there is no practical way of telling a layman just how much pressure to apply, it doesn't seem to me it would be practical to use that type of unit, a unit in which a certain amount of pressure is necessary to achieve an adjustment.

Mr. Flam: You may cross examine.

Q. By the Court: May I ask one question? You mentioned these automatic frequency controls. Are they in common use now on radios?

A. I don't know of a receiver that uses them today. In fact, I don't know of a receiver in the last year that has used that type.

Q. What is an automatic frequency control?

A. The best way I can describe that is that it is a supplementary control tube which will tune the oscillator—let's see. I want to explain this to you, your Honor, but it is so technical that it is hard to do.

Q. Go ahead. I think I can follow you.

A. The oscillator has to beat against the incom-

(Testimony of Allan R. Ellsworth.)

ing signal to produce the intermediate frequency. A supplementary tube is provided with an automatic frequency control [316] unit which tunes the oscillator plus or minus, possibly depending on preadjustments but usually about 7 kilocycles. That would be about a 14-kilocycle grid. That adjustment is controlled by what is called a seeking circuit which provides a voltage to the control tube, causing it to follow or change the oscillator to provide a difference of 460 kilocycles. I am, of course, speaking of our own practice, naturally, which is 460 kilocycles. Other manufacturers may use other frequencies.

Q. Is that due to the fact that the tuning devices have become accurate enough that it is not necessary to use this automatic frequency method?

A. You are correct in your assumption.

Q. But they did use them when the tuning devices were first brought out?

A. Yes. They were so crude in their adjusting and setting that some supplementary means was necessary.

Q. When did they first start to use this automatic frequency control device?

A. I believe probably the telephone dial arrangement was one of the applications where automatic frequency control was used and the other, I think, is some of the motor-driven units used it, too, although the motor-driven units, or some of them, were accu-

(Testimony of Allan R. Ellsworth.)

rate enough that they didn't require automatic frequency control.

Q. These automatic tuning devices sprang up, you might [317] say, entirely in the last couple of years, didn't they, or within three years at the most?

A. Yes. The idea has been probably one that we have wanted to use for a good many years but it has only been in the last couple of years that devices have been available which were sufficiently accurate.

Q. And all of a sudden the market was flooded with any number of them?

A. It is a fact there are various methods of accomplishing that result today. Most manufacturers use what suits their own particular methods.

The Court: That is all.

Cross Examination

Q. By Mr. L. S. Lyon: The use of automatic mechanically-operated push buttons is going out of style now in the radio business, isn't it?

A. I don't believe that I could say that it is. If it is going out of style, then many receivers are today out-of date that are on the market.

Q. Isn't the trend now away from the mechanical-push button automatic tuners to the electrical tuners?

A. Some manufacturers are attempting to drive automatic tuning from the market by marketing

(Testimony of Allan R. Ellsworth.)

receivers without it, hoping that their sales will be good enough to keep from using those units. But the public still demands automatic [318], tuning, however, because complete absence of an automatic tuning unit goes against the sale of the receivers, apparently.

Q. Can you give us an estimate of the percentage of radio receivers, that are sold today as compared with two years ago, that are equipped with mechanically-operated automatic push buttons?

A. Well, I don't think I would care to estimate that because I am not sufficiently versed in what other manufacturers are doing.

Q. As a matter of fact, these special features that come out on different models of radio receivers from time to time are somewhat a question of the fashion of the moment; are they not?

A. Not entirely.

Q. But to some extent?

A. Well, I don't think I could answer it that way. That is a leading question and I don't think I would like to answer it.

Q. Isn't the radio receiver business something like the automobile business in regard to certain things, that they are in style at certain periods and then they go out and something else takes their place?

A. In any industry today redesigning and restyling seem to be a necessary part of the game in

(Testimony of Allan R. Ellsworth.)

order to produce buying on the part of the public. I would say that would [319] be a fact.

Q. Is the question of selecting an electric automatic tuner or a mechanical push button automatic tuner governed at all by the relative price of the set? Is there any difference in the choice from the standpoint of whether you are considering building a cheap table set or a larger console set.

A. I believe the choice in what the manufacturer does with his receivers is more accurately determined by the buying public than by anyone else.

Q. I hardly think that is an answer to the question. I mean in selecting the type of automatic tuner, is there a tendency to select one type for the cheaper sets and a different type for the more expensive sets?

A. Do you mean whether you use a mechanical unit or some other unit?

Q. Or an electrical unit.

A. Well, mechanical units are cheaper from the production angle to use than are electrical units; and, accordingly, if you are trying to make a low-priced receiver, you would have to use the lower priced unit.

Q. You have said something about the fact that the old Zenith device, of which Exhibit 3 before you is a specimen, was cumbersome and impractical. It was an accurate tuner, was it not?

(Testimony of Allan R. Ellsworth.)

A. It apparently was not satisfactory because—— [320]

Q. I am not asking you that.

The Court: Just answer the question. Was it an accurate tuner?

A. I don't know how accurate it was.

Q. By Mr. L. S. Lyon: The things that you do know were the matter with it, or one of the things, is that you didn't like that lever arrangement? It was too cumbersome, isn't that correct?

A. I merely said it was cumbersome.

Q. What is cumbersome about it?

A. The size of the unit. That is self evident.

Q. You noticed the size of the levers it takes to operate that device in place of push buttons, didn't you?

A. Yes; the long stroke, of course.

Q. That is a cumbersome feature, is it not?

A. It would go against the unit from a merchandising angle; yes.

Q. You wouldn't want to put on an automobile radio or even on a table set at the present time long-stroke levers for operating a tuner, would you?

A. No. We wouldn't use those in production.

Q. When is the first time you ever saw an automatic mechanical push button tuner actuated by push buttons instead of levers?

A. The first unit was the treadle bar type. That would be on the order of this type. [321]

(Testimony of Allan R. Ellsworth.)

Q. Who put out the first set that you know of equipped with automatic mechanical push button tuning?

A. I didn't see any particular set first, I would say; They seemed to all come at one time out here anyway. The first units I saw were mounted on variable condensers.

Q. You had already observed the radio receivers equipped with automatic push buttons before you ever saw the units themselves, hadn't you?

A. No; I had not. The units were shipped to us before I saw receivers with that application. We get samples of these various items sometimes before we see the receivers, maybe three or four months before.

Q. From whom did you get your first sample of an automatic push button mechanical tuner?

A. I would like to answer that question in two ways.

Q. All right; but both consistent, I hope.

A. Yes. In other words, your question is such that I can't answer it that way. The first unit we used——

Q. I am not asking you about the first unit you used. I am asking you what your first knowledge was of a concern that put on the market for the first time receivers with automatic mechanical push button tuners on them as distinguished from levers or telephone types.

(Testimony of Allan R. Ellsworth.)

A. I don't remember seeing any one of them or any one of them does not stand out in my memory as being the first at all. They all seemed to arrive at the same time. In [322] other words, we saw several makes strike the market approximately the same time with that type of unit.

Q. You didn't see any before you saw the Crosley receiver, did you?

A. We don't see many Crosley receivers out here. In fact, I haven't seen a Crosley receiver this year, that is, as of this year's merchandise.

Q. Maybe your concern is driving them out of the market here in Los Angeles.

The Court: They hope so, I guess.

A. I mean to say we are only interested in looking at receivers that give us strict competition and Crosley receivers haven't been giving us competition and, therefore, we don't look at them. I don't spend any time looking at other makes of receivers unless they are competitive. That is what I am trying to explain to you.

Q. By Mr. L. S. Lyon: No automatic frequency control was necessary or was actually employed on this old Zenith device of Exhibit 3? That is correct, isn't it?

A. No; there was no device like that used. That is right.

Q. It didn't need any on there, did it? Is that right?

A. Yes. Well, I won't say it didn't need it.

(Testimony of Allan R. Ellsworth.)

Q. Well, they didn't have it?

A. They didn't have it but I won't say they didn't need them. [323]

Q. You won't say they did need them if you don't know how accurately the device tuned, will you?

A. That is right. I can't say they didn't need it because I don't know how accurate the device was.

Q. Did you see it at the time and were you familiar with it at the time it was being sold?

A. I merely saw it in receivers and, while it was something new to look at, I wasn't much concerned at the time.

Q. What about these belt units that you are using now? I think you identified them as a belt-type tuner, is that correct? A. Yes.

Q. They don't have any treadle bar in them, do they? A. No.

Q. Are the electrical units or tuners that you are using now cheaper than the units of the type of Exhibit No. 8, with the treadle bar to which you have referred? A. No; they are not.

Q. They cost more money, don't they?

A. Yes.

Q. These automatic tuners, where they are not set up in the factory, are intended to be adjusted and set by the dealer before he delivers the receiver to the user, isn't that correct?

A. Not necessarily. The customer can adjust them because [324] we include instructions.

(Testimony of Allan R. Ellsworth.)

Q. He can but the intention is that the buttons shall be lettered and the tuners set by the dealer before he delivers the set to the user; isn't that correct?

Q. By the Court: Isn't it a matter of practice that the dealer generally sets it up for the customer; that that is a part of his service that he renders and a part of his sales talk; for instance, telling you to come in and he will set it all up for you and that he will push the button for your favorite station or ask you which station you prefer and so forth?

A. That is true of a hard-working dealer but there are a lot of drug stores and service stations and other places that sell them who are not concerned with the customer's welfare after that. [325]

Q. By Mr. L. S. Lyon: It is not the usual thing for an ordinary user in a home to attempt to reset the tuner in a radio receiver, is it?

I wonder if the court has ever done it. The court may be interested in radios but I don't believe the average man ever resets the tuner in his radio.

The Court: I have been hoping throughout this case that you would tell me how I can reset my radio in my car to a station that I like to use, that is not listed.

Q. By Mr. L. S. Lyon: Isn't it an actual fact that the average user and almost entirely all users, if they want to have another station put on in place of one that is on there, or if they want to reset these

(Testimony of Allan R. Ellsworth.)

tuners of all kinds, go to a radio shop of some kind or a radio specialist and have him do the job?

A. I don't think you could say that is a fact because that is too broad a way of putting it. After all, there are the individual's desires and ideas along those lines. For example, a person may not have enough money to have that done.

Q. I am talking about what is the general custom.

The Court: I think we are wasting time on that question, Mr. Lyon, along that line.

Q. By Mr. L. S. Lyon: I have just one further question along that line. What does the user do with these electrical tuners that you have if he wants to change the lettering [326] or the stations that are tuned in by the buttons?

A. There is an instruction sheet with the receiver and he should be able to make the adjustment by following the instructions.

Q. What about those sets that you state couldn't be changed, the electrical tuners that couldn't be changed?

A. That was misunderstood. I didn't mean it in that way. In other words, bear in mind the preset tuned circuit won't be affected by turning the tuning control knob, whereas, where you use a mechanical indexer, if you turn the tuning control knob, you will still turn your tuning unit. It is never disconnected from the circuit. You can take this knob and turn it after you have pushed this button into a

(Testimony of Allan R. Ellsworth.)

given station, that is, you can come back and turn your knob.

Q. Do you mean by that, if you have automatic electrical tuning, it is a system of tuning in the receiver which is independent of the manual tuning and that either one can be operated to the exclusion of the other? A. That is right.

Q. Whereas, if you have an automatic mechanical tuner, that is tied to your manual tuner and the operation of either one affects the other?

A. No; either one does not affect the other.

Q. They work together, don't they?

A. They work—— [327]

Q. By the Court: They work on the same dial?

A. Yes; that is right.

Q. By Mr. L. S. Lyon: Yes; that is correct. When did you first see or have any knowledge of an automatic mechanical push button tuner?

A. I think I answered that before. I think I said the treadle bar type was the first one I ever saw.

Q. What was the date?

A. I would say about the spring of 1938.

Mr. L. S. Lyon: I think that is all.

Mr. Flam: That is all.

The Court: We will take a five-minute recess, gentlemen.

(Short recess.)

Mr. Flam: The plaintiff rests, your Honor.

Mr. Yungblut: If your Honor please, some depositions in this case were taken in Cincinnati, which depositions are before your Honor now, I believe.

The Court: I believe so.

Mr. Yungblut: And I understand you have read them. So I assume you will not wish to have them read here. I, therefore, request these depositions be incorporated in the transcript and that the exhibits there introduced for the defendant, which were given numerical designations, be introduced and accepted here.

The Court: Is this the deposition that you are referring to? [328]

Mr. Yungblut: I think it is.

The Clerk: There are several of them, your Honor. There are four depositions.

The Court: Yes; I have read them and have forgotten them already.

Mr. Yungblut: Among these depositions there was a short deposition of Mr. Charles E. Kilgour, who is here now, and whom I would like to question about some other matters. In order to save repeating the deposition which was taken at Cincinnati, I request that that be accepted as a portion of his testimony here, the understanding being that Mr. Flam can cross-examine him on that also in connection with his other statements here. So I would like to call Mr. Kilgour. The depositions will be copied into the record, we understand.

The Court: They may be admitted in evidence and, if you want them copied into the daily transcript, it is satisfactory.

Mr. Yungblut: Yes, if your Honor please.

(The depositions on behalf of the defendant last above referred to are as follows:) [329]

ROBERT J. VIZCARRONDO,

a witness called on behalf of the Defendant, being by me duly cautioned and sworn, deposes and says, in answer to questions propounded to him by Marston Allen, Esq., of counsel for Defendant, as follows, to-wit:

Direct Examination,

By Mr. Allen:

Q1. Please state your name, age, residence?

A. Robert J. Vizcarrondo; 26; 4344 Kirby Avenue, Cincinnati, Ohio.

Q2. You are employed by The Crosley Corporation, are you, Mr. Vizcarrondo? A. Yes, sir.

Q3. In what department are you at present located?

A. Dealers Statistical Department.

Q4. Since when? A. Since January, 1939.

Q5. During the year 1938 what department were you in? A. Order department.

Q6. What records are kept in the order department of your company showing sales of radio receivers?

(Deposition of Robert J. Vizcarrondo.)

A. Regular accounting records, on Acme visible cards, on which we keep record of our sales, that is, by product and under product, by model numbers.

Q7. Do you have records showing sales by model numbers to each distributor?

A. Yes, we do.

Q8. How are these records kept?

A. Well, when we get out a new model, a card is placed in the file, and subsequent orders and shipments are marked on this card in an accounting form.

Q9. From what do you get the data for making entry on these cards?

A. Orders received, of course, are posted from orders received from the distributors, and shipments are placed on there from ship sheets.

Q10. Do you call them invoices?

A. Which is the same as an invoice.

Q11. Now when, with reference to the time that an invoice goes out, is an entry made on these cards?

A. Well, as a general rule it is made within 24 hours, it is posted on the card.

Q12. Do I understand that when a new model is put out, a card for that model is placed in a file for each distributor? A. That is right.

Q13. And those are the cards that you refer to?

A. That is right.

Q14. Will you please produce the model cards

(Deposition of Robert J. Vizcarrondo.)

for the Associated Wholesale Electric Company of Los Angeles, California?

A. (Witness produces same, as requested).

Q15. I hand you a list of model numbers of the radio receivers of The Crosley Corporation, which I will later introduce in evidence and at this time ask to have marked as Defendant's Exhibit No. 1. I have asked you to make a list of shipments of radio receivers including any of these model numbers, to Associated Wholesale Electric Company from January 1, 1938 to December 1, 1938. Have you done so? A. Yes, sir.

Q16. Where did you get the data on this list?

A. From the cards mentioned previously.

Q17. The cards you have just produced here?

A. That is right.

Q18. Just explain this list that you have made up?

A. The first column is the model number, second column the quantity, third column the date of shipment and our order number covering that particular shipment.

By Mr. Allen: I ask to have the list which the witness has just produced, received in evidence and marked as Defendants' Exhibit No. 2.

I ask to have the cards introduced by the witness, placed in an envelope and marked for identification as Defendant's Exhibit No. 3. The cards which have now been marked for identification, I have not introduced in evidence, because I do not desire to en-

(Deposition of Robert J. Vizcarrondo.)

cumber the record with them. Due to failure of counsel to attend at this hearing, the cards will be produced by the Defendant at the hearing of this cause, so that they may be examined by the Plaintiff.

Q19. One of these bundles of cards, Mr. Vizcarrondo, were started in the year 1937, were they not?

A. That is correct.

Q20. How does it come that you included them in this list of cards showing sales in 1938?

A. The models were carried over into 1938.

Q21. What time of year do you set your models for your production and sale in the ensuing year?

A. The model numbers are set in the spring.

Q22. State whether or not by the end of July in any year your model numbers are set for the ensuing year's radio receiver business?

A. That is generally true.

Q23. When you set up new models or new model numbers late in the year, or early in the ensuing year, what do you call those models?

A. They would still be called 1938, but would probably be promotional models.

Q24. When you said the year 1938, were you referring to the list, Defendant's Exhibit No. 2, that is to say, it was 1938, is that the reason why you spoke of the year 1938?

A. That is right.

Q25. What does the last numeral in the model number indicate?

(Deposition of Robert J. Vizcarrondo.)

A. It indicates the year in which we start to manufacture that set.

Q26. How does it come that you have included some '8 cards in the bundle of 1937 cards in the ones that you have produced, Mr. Vizcarrondo?

A. We keep our files through until the early summer of the year, and then we take out the inactive numbers and put them in an inactive file. In this instance, several of the model numbers ending in the number 8, were apparently taken out of our active file and put back into the inactive file with 1937 cards.

Q27. Mr. Vizcarrondo, Mr. Lewis Crosley asked you for a list of the number of receiving sets embodying the push button tuner involved in this suit that were shipped to Associated in the year 1938 and the first eleven months of 1939. What number did you give him? A. 1002.

Q28. Is that correct? A. No, it isn't.

Q29. What does that cover?

A. That covers only the first 11 months of 1938.

Q30. Will you please review the cards which you have already introduced, and the necessary additional cards, and give us the total number of sets on the list Exhibit 1 shipped from December, 1938 up to, but not including December, 1939?

A. 832 receivers. Besides the numbers on the list, Exhibit 1, I have included A-168, A-169, A-259 and 1018.

(Deposition of Robert J. Vizcarrondo.)

Q31. Mr. Vizcarrondo, on the list, Defendant's Exhibit 2, you have included model numbers A-258, A-168, A-268, 1018 and 818, which are not found on the list that I gave you, Exhibit 1, have you not?

A. That is true.

Q32. That adds 214 on to your number 1002 for the period in question, does it not?

A. That is correct.

By Mr. Allen: Direct Examination Closed.

No cross examination.

And further, deponent saith not.

ROBERT J. VIZCARRONDO

And, also,

CHARLES EDMUND KILGOUR,

a witness called on behalf of the Defendant; being by me first duly cautioned and sworn, deposes and says, in answer to questions propounded to him by Marston Allen, Esq., of counsel for Defendant, as follows, to-wit:

Direct Examination,

By Mr. Allen:

Q1. Will you please state your name?

A. Charles Edmund Kilgour.

Q2. And your age and address?

A. 54. 346 Wood Avenue, Cincinnati, Ohio.

Q3. You are connected with The Crosley Corporation? A. I am.

(Deposition of Charles Edmund Kilgour.)

Q4. In what capacity?

A. My title is Chief Research Engineer.

Q5. Were you with the company in the year 1937? A. I was.

Q6. In what capacity?

A. Same capacity as at present.

Q7. Did you see Mr. LeRoy J. Leishman when he came to The Crosley Corporation in the fall of 1937? A. Not to speak to him.

Q8. Did you have any connection at that time with the conference with Mr. Leishman, or what he wanted with the Company?

A. None, except that after Mr. Leishman had left, Mr. Fred Johnston asked me to send some papers which Mr. Leishman had left with him, to our patent firm, Allen and Allen.

Q9. What is this carbon copy of a letter which I show you?

A. This is a letter dated October 4, 1937, which I wrote to accompany the papers which were sent to Allen and Allen.

By. Mr. Allen: I ask that the carbon copy of letter be received in evidence and marked Defendant's Exhibit No. 4.

Q10. Previous to the time that Mr. Leishman came there, had your company been working on push button tuning for radio receivers?

A. It had.

Q11. Who in your company had devised the

(Deposition of Charles Edmund Kilgour.)

particular push button tuning device on which you had been working at that time?

A. The idea was first suggested by Mr. Leonard Kellogg.

Q12. Mr. Kellogg is now dead, is he not?

A. He is.

Q13. Will you please describe briefly the Kellogg device?

A. The device was operated by pushing a button on the front of the receiver. This button moved its shaft longitudinally. The end of the shaft was equipped with a V-shaped member which engaged a pin mounted on a carriage and moved the carriage to a predetermined position dependent on the exact location of the pin on the carriage. The movement of the carriage through mechanism such as a rack, served to rotate the rotor of the variable condenser.

Q14. Mr. Kilgour, are you familiar with the push button tuning device which is employed in the Crosley receiver 718-C, of which a sample was sent to counsel for Plaintiff in connection with this case?

A. I am.

Q15. Do you have here with you a blueprint No. W-45654-D of The Crosley Corporation?

A. I have.

Q16. What does that show?

A. This shows a key finger or cam such as is employed in the tuning mechanism incorporated in the received model 718-C.

(Deposition of Charles Edmund Kilgour.)

Q17. What do the little numbers written at the top of that blueprint mean?

A. According to our drafting system, these numbers should indicate the receiver models in which this particular part is to be used.

Q18. State whether or not that would indicate models in which the complete tuning device, including that little finger, such as is in 718-C, would be used? A. Yes.

By Mr. Allen: I ask that the blueprint be received in evidence as Defendant's Exhibit No. 5.

Q19. I will show you a list, marked Defendant's Exhibit No. 1 for identification, and ask you what the list shows?

A. This shows the model numbers copied from the top of the blueprint in question.

By Mr. Allen: I now introduce Exhibit 1 in evidence.

Q20. Now, can you give me, Mr. Kilgour, the numbers in the 8 series, that is, ending with 8, which also include the tuning device of 718-C but do not happen to be listed on the top of this drawing?

A. Yes. There were a certain number of automobile models, as follows: A-258, A-468, A-268, and a number of changed-over household models, including 1018, 1028, 618 and 818.

Q21. Can you produce a copy of the papers that you sent to Allen and Allen with your letter of October 4, 1937, Defendant's Exhibit No. 4?

(Deposition of Charles Edmund Kilgour.)

A. I believe this contract is a copy of the one I sent to Allen & Allen.

By Mr. Allen: I should like to introduce the contract in evidence, and ask to have the same marked Defendant's Exhibit No. 6.

Q22. Did you have anything to do with the Leishman matter in the fore part of the year 1939?

A. No.

Q23. Did you see Mr. Leishman when he came down here in March of 1939?

A. No, as I remember it he did not visit our plant, but only the offices of Allen and Allen. Mr. Tyzzer went down to have a conference with him at those offices.

By Mr. Allen: Direct Examination Closed.

No Cross Examination.

And further deponent saith not.

CHARLES EDMUND KILGOUR.

LEWIS M. CROSLEY,

a witness called on behalf of the Defendant, being by me first duly cautioned and sworn, deposes and says, in answer to questions propounded to him by Marston Allen, Esq., of counsel for Defendant, as follows, to-wit:

Direct Examination.

By Mr. Allen:

Q1. Please state your full name, and age?

A. Lewis M. Crosley; 51.

(Deposition of Lewis M. Crosley.)

Q2. And your residence?

A. 5764 Belmont Avenue, Cincinnati, Ohio.

Q3. With what company are you connected and in what capacity?

A. Connected with The Crosley Corporation, as Executive Vice-President.

Q4. As such, are you familiar with the products manufactured and sold by The Crosley Corporation? A. Yes.

Q5. Will you give us a brief history of the work that was done by the Corporation in connection with tuning devices for radio receivers not using the conventional rotary dial tuning? Give dates to the extent that you can.

A. In the year 1937 our engineers developed and used a motor driven method of tuning the variable condenser in some models of radio receivers in our lines.

Q6. And how did this work?

A. This worked by driving the condenser with a motor, which started and stopped by push button control. The motor would move the condenser from its former position and carry it slowly to the new desired position of the condenser, which was determined by the button you pushed.

Q7. Now, what part of 1937 was that, if you can recall?

A. That was in the early part of 1937.

Q8. Were you satisfied with that mode of tuning?

(Deposition of Lewis M. Crosley.)

A. We were not entirely satisfied with that method of tuning, because of the fact that we found it to be costly and slow in operation, so our engineers in charge of the work of development hit upon the idea of a push button mechanism which was direct and positive, entirely manual in control, not requiring the use of an electric motor.

Q9. Had you known of the manual button tuning previous to the experience of which you speak?

A. We knew of a method used by Zenith over a period of years which we called the cash register type of tuning, which had been on the market for some time but was not particularly popular as a sales feature.

Q10. When you say "cash register tuning," what do you mean by that?

A. I mean a tuning device which was largely made up of levers, in which, instead of pushing directly in, as our type was developed, they pushed down in a cumbersome sort of method.

Q11. Now, you say that your device which was worked up, pushed directly in?

A. Our device that our engineers developed was small and compact and worked on the principle that the buttons were pushed straight in and not downward.

Q12. Now, do you have any recollection of a visit of LeRoy J. Leishman to The Crosley Corporation in the fall of 1937? A. No.

(Deposition of Lewis M. Crosley.)

Q13. Did your company come out with a push button, push rod type of tuning device?

A. Yes.

Q14. I show you a tuning device on one of your models 718-C, and ask you if this is the tuning device to which you refer? A. Yes.

Q15. When did you first ship radio receivers with those tuners in them?

A. We commenced shipping radio receivers with this type of tuning in January, 1938.

Q16. In what receiver?

A. In a low priced automobile set model.

Q17. How many models did you incorporate this tuning device in at that time, and why?

A. We incorporated this tuning device in one model receiver at that time.

Q18. And why only in one model?

A. We were at that time developing and preparing for the market a low priced automobile set to sell at the attractive price of $19.98 retail, and we found it possible to use this device to make the set more acceptable and at the same time test the marketability of this particular method of tuning.

Q19. Did you consider that you had anything exclusive in that tuning device for your company's products? A. Yes.

Q20. What was it?

A. We felt that we had overcome the objection to the types of tuning previously used, both manual

(Deposition of Lewis M. Crosley.)

and electrical, because of the use of a direct push rod acting to rotate the condenser.

Q21. While you were going through this test period, did you receive, or was there brought to your attention a letter from LeRoy J. Leishman to your company? A. Yes.

Q22. Do you have a copy of the letter before you?

A. Yes, I have a copy of the letter before me.

Q23. Attached to that letter is a photostat of part of a patent. Was that received with the letter?

A. Yes.

By Mr. Allen: I have pinned the photostat to the letter so that it will not become lost. I offer the letter with the photostat attached in evidence as Defendant's Exhibits 7 and 7-A respectively.

Q24. Was there anything else included in the way of a document with Exhibits 7 and 7-A?

A. Yes, there was a copy of a license agreement with the letter and page of a patent listed as Exhibits 7 and 7-A?

Q25. As a matter of fact, Mr. Crosley, there were two copies of the agreement, is that not correct? A. Yes, I believe there were.

By Mr. Allen: I will offer the one copy to which the witness referred, in evidence as Defendant's Exhibit 7-B.

Q26. What did you do upon receipt of this letter and other documents?

A. I consulted with our engineers and our pat-

(Deposition of Lewis M. Crosley.)

ent attorneys, because I was very much surprised and worried to find that there was any question concerning the new tuning mechanism which our engineers had developed.

Q27. Did you reply to Mr. Leishman?

A. Yes, I replied to Mr. Leishman on February 25, 1938.

Q28. Do you have a carbon copy of your letter to him at that time?

A. Yes. (Produces same).

By Mr. Allen: I ask that the carbon copy of the letter to which the witness referred, be received in evidence as Defendant's Exhibit No. 8.

Q29. Did you receive, then, a response from Mr. Leishman, and if so, do you have it with you?

A. Yes. In March I received a letter dated the 9th from Mr. Leishman, in which he enclosed a copy of the patent 2108538.

Q30. Do you have the letter and the patent that was attached? A. Yes. (Produces same)

Q31. The date stamp on the patent shows March 11, 1938. Does that identify this patent to you as having been the one that came with this letter?

A. Yes. It is customary for our mail desk to stamp documents when received.

By Mr. Allen: I ask to be received in evidence the letter to which the witness has just referred, as Defendant's Exhibit No. 9, and the copy of the patent as Defendant's Exhibit No. 10.

(Deposition of Lewis M. Crosley.)

Q32. Now, by the time you received a copy of this letter and the patent to which you have just referred, had you consulted with your engineers and attorneys with reference to the applicability of the Leishman claim to your tuning devices?

A. Yes.

Q33. And did you communicate with Mr. Leishman on the 11th day of March with reference to his claim?

A. Yes, I wrote Mr. Leishman on March 11, 1938, and told him that we found that we could not employ the use of a lever in our device, that "We are using a straight push-button type, which we do not believe comes under your patent."

Q34. State whether or not you wrote that upon advice of your counsel and your engineers and experts? A. Yes.

By Mr. Allen: I ask to be received in evidence a carbon copy of the letter last referred to, as Defendant's Exhibit No. 11.

Q35. With regard to reports of your engineers state whether you have in your files a copy of any correspondence which epitomizes the reports to you?

A. We have a copy of a letter written March 14, 1938 to our patent attorneys, Allen and Allen, signed by Mr. H. J. Tyzzer, Chief of the Household Radio Division of The Crosley Corporation.

Q36. State whether or not that sets forth what Mr. Tyzzer reported to you?

(Deposition of Lewis M. Crosley.)

A. This letter explains the report that Mr. Tyzzer gave me concerning Mr. Leishman's letter and patent. I instructed Mr. Tyzzer to write accordingly to our attorneys, Allen & Allen.

By Mr. Allen: I ask to be received in evidence the carbon copy of the letter referred to, as Defendant's Exhibit No. 12.

Q37. I hand you a sheaf of correspondence and telegrams, containing a letter from Mr. Leishman of March 12, 1938, a second letter to you from Mr. Leishman dated March 17, 1938, a letter from you to Mr. Leishman dated March 21, 1938, and telegrams dated March 27 and 28, 1938, and ask you if you can identify this sheaf of correspondence?

A. Yes, I can identify the sheaf of correspondence.

Q38. From whose files did it come?

A. It came from my files.

Q39. Do you recall the sending and receiving of that correspondence? A. Yes.

By Mr. Allen: I ask that the correspondence and telegrams be received in evidence as Defendant's Exhibits 13-A to 13-E, inclusive.

Q40. Now, Mr. Crosley, after you had written the letter of March 11 to Mr. Leishman, to which you have referred, what did you do with regard to the use of the accused tuning device in the receivers of your company?

A. About that time our field tests made by the

(Deposition of Lewis M. Crosley.)

sale of a low priced automobile receiver indicated that our new tuning device was acceptable as a sales feature, and by this time we felt free to incorporate this method of tuning from a patent point of view in other models of receivers being developed for the coming year's line.

Q41. And did you in fact incorporate that tuning device in various models? A. Yes.

Q42. What do you mean by "from a patent point of view" in your last answer?

A. Up to this time, the only patent that had been brought up against us was this one of Mr. Leishman's and in view of the fact that we did not feel that we infringed this patent, we felt free to use this device in other models.

Q43. Did Mr. Leishman come down to Cincinnati for a conference, if you recall, after this last correspondence that we put in evidence, Exhibits 13-A to 13-E?

A. I was told that he came to Cincinnati, but I had no contact with him.

Q44. What is the next letter that you received with regard to this Leishman patent, in behalf of Mr. Leishman?

A. In August we received a letter from Mr. Leishman's attorney, Mr. John Flam, advising us that his patent had been reissued.

Q45. Do you have that letter with you here?

A. Yes, this is the letter which we received

(Deposition of Lewis M. Crosley.)

registered mail, advising us of the reissue of the patent.

By Mr. Allen: I ask that the letter to which the witness has just referred, be received in evidence as Defendant's Exhibit No. 14.

Q46. State whether or not you had heard previous to that time that a reissue patent had been allowed to Leishman?

A. I was told shortly before that time something about a reissue patent.

Q47. How far had you gone with your receiving set designs for the ensuing season by the time you received word that Leishman had a reissue patent?

A. Our full line of receiving sets was in production, and quantities of them had already been shipped to the field.

Q48. What about changing your designs at that late day for the ensuing season?

A. It would have been impossible to have changed our designs at that time.

Q49. Had you ever received any word from anyone that Leishman was filing an application for a reissue patent previous to being told that a reissue patent had been granted to him?

A. No.

By Mr. Allen: Direct Examination Closed.

No cross examination.

And further, deponent saith not.

LEWIS M. CROSLEY

And, also,

EDWIN J. ELLIG,

a witness called on behalf of the Defendant, being by me first duly cautioned and sworn, deposes and says, in answer to questions propounded to him by Marston Allen, Esq., of counsel for Defendant, as follows, to-wit:

Direct Examination,

By Mr. Allen:

Q1. Please give your name, age and address?

A. Edwin J. Ellig; age 41; 3534 Daytona Avenue, Cincinnati, Ohio.

Q2. What position do you hold with The Crosley Corporation? A. Office manager.

Q3. State whether or not you have charge of the sales records of The Crosley Corporation?

A. Yes, I do.

Q4. What do the sales records consist of?

A. Duplicates of the original invoices to the customers, analyses of these invoices,—that would be all.

Q5. Now, do you have any records showing total sales by model numbers, and if so, what are they and how are they made up?

A. Yes, we have a record showing sales by model numbers. They are made from the analysis of the duplicates of the original invoices to customers: from the summaries of these analyses postings are made to a record showing the number of units sold by model numbers.

(Deposition of Edwin J. Ellig.)

Q6. How are the analyses made, who makes them?

A. The analyses are made in what we call the tabulating department, which is a department used for the purpose of analyzing the invoices to customers. Tabulating machines and punch cards are used for this purpose.

Q7. I gather from your answer that they make an analysis, then, of sales by model numbers, is that correct? A. That is right.

Q8. When do they do this?

A. They do this each month, and the summary is drawn off immediately after the last day of each month.

Q9. I asked you to bring here with you your summaries showing sales by model numbers, prepared as you have just stated, for the year 1938. Have you done so? A. Yes, I have.

By Mr. Allen: I ask that the volume of records produced by the witness be marked for identification as Defendant's Exhibit 15. As in the case of the card records of the former witness, we do not believe it necessary to encumber the record with the detail documents, but we will present the duly identified documents at the trial of this case for examination by opposing counsel.

Q10. Now, I have asked you to make a list of the shipments by months of certain model numbers of The Crosley Corporation for the first 8 months of 1938 from a list, Exhibit 1, in this case, to which

(Deposition of Edwin J. Ellig.)

has been added A-258, A-168, A-268, 1018, 1028, 618 and 818. Have you done so?

A. I have prepared such a list.

Q11. And where did you get the information for that list?

A. From the same records exhibited before.

Q12. From the documents we have just had marked Defendant's Exhibit 15?

A. That is right.

Q13. This list that you have produced does not contain all of the model numbers on Exhibit 1 or all of the numbers I have just given you, does it?

A. It does not.

Q14. Why not?

A. Because certain of the models were not shipped during that period.

Q15. I notice that you have included on your list model C-159, showing 105 shipped in August. That is not an 8 number, is it?

A. No, it isn't, but it happens to be a model that was shipped for a private brand customer earlier than the usual company models showing 9's to be produced.

By Mr. Allen: The list that the witness has produced, is offered in evidence as Defendant's Exhibit No. 16.

Q16. Now, will you explain this Exhibit No. 16?

A. This exhibit shows the shipments by models by months for the period from January 1 to Sep-

(Deposition of Edwin J. Ellig.)

tember 1, 1938. In other words, it shows the number of each model shipped in each month.

Q17. Now, I asked you to make a list of shipments for the year 1938 of the same list of model numbers from the documents marked as Defendant's Exhibit No. 15. Have you done that?

A. Yes, I have prepared such a list.

Q18. Is this the list (showing to witness)?

A. This is it.

Q19. Now, state whether or not this list includes the list of Exhibit No. 16? A. It does.

Q20. And from this list, we could tell the shipments during the remainder of the year 1938 of such other models, is that correct?

A. That is correct.

By Mr. Allen: I ask to have the list which the witness has just produced, received in evidence as Defendant's Exhibit No. 17.

Q21. This list, Defendant's Exhibit No. 17, contains among other things model A-258, does it not?

A. Yes.

Q22. State whether or not these various models appearing on this list, contain the same tuning device as model A-258?

A. As I understand it, yes.

Q23. From whom did you get your information to which you referred in your last answer?

A. From Mr. Tyzzer.

Q24. Mr. Tyzzer is associated with The Crosley Corporation?

(Deposition of Edwin J. Ellig.)

A. Yes, he is in charge of engineering.

Q25. Did you get from Mr. Tyzzer a list of the model numbers of the year 1939 containing this same tuning device as A-258? A. I did.

Q26. The Plaintiff in this case asks for shipments January through November, 1939 of models containing this tuning device such as was used in A-258. I asked you to prepare such a figure. Have you done so? A. I have.

Q27. What is the total number of sets sold of these various models?

A. The total number of sets sold of the various models from January 1 to November 30, 1939, amounted to 86,775 units.

Q28. You have a tabluation, have you not, from which you reached the figure of 86,775?

A. Yes, I have it here.

By Mr. Allen: I will ask the reporter to mark the tabulation for identification as Defendant's Exhibit No. 18.

Q29. You gave Mr. Lewis Crosley, did you not, a total of receivers containing this tuning device like in model A-258 for the year 1939?

A. Yes, I did.

Q30. You gave him the number 67,656, is that correct? A. Yes.

Q31. Now, this number which you just gave is greater by almost 20,000. How does that come?

A. It comes about through our having been notified of additional numbers, or rather, additional

(Deposition of Edwin J. Ellig.)

models which were not included in the original list, but which had the original tuning device.

Q32. There is also a discrepancy of about 40,000 in the number of receivers sold in 1938, between those on your list and those that appear in the answers to interrogatories. State whether or not you have the same explanation of that?

A. The explanation is exactly the same,—additional model numbers were given us after the original list was made up.

By Mr. Allen: Direct Examination closed.

No cross examination.

And further, Deponent saith not.

EDWIN J. ELLIG

Depositions Closed.

CHARLES E. KILGOUR,

called as a witness on behalf of the defendant, being first duly sworn, testified as follows:

Q. By the Clerk: Will you state your name?

A. Charles E. Kilgour.

Direct Examination.

Q. By Mr. Yungblut: Will you please state your age and residence, Mr. Kilgour, and occupation?

A. 54 years; 346 Wood Avenue, Cincinnati, Ohio; I am a research engineer for the Crosley Corporation of Cincinnati.

(Testimony of Charles E. Kilgour.)

Q. Have you been chief research engineer of the Crosley Corporation since prior to 1937?

A. Yes.

Q. Can you state, Mr. Kilgour, when the Crosley automatic tuner, the accused device here, was developed?

A. We started development in 1937 on an automatic push button tuner device and this accused device was the result of that development in the latter part of that year.

Q. Do you remember when you first began to sell radio sets with that tuner on them?

A. In January, 1938.

Q. In the latter part of 1937 and January, 1938, what were your requirements for an automatic tuning device? [356]

A. Of course, like any radio part, we look, first of all, to the cost and simplicity. We also, in a small way, make a great many small receivers. Then in the automobile receiver the space available is quite limited. So we were interested in having a device that occupied a small space inside of the receiver and a small amount of space on the panel. In fact, Mr. Crosley had definitely set up the policy that he wanted us to develop a push button type of receiver. He was familiar with the old what we called the cash register type or Zenith type and, of course, other types with the telephone dial; and he thought the thing that would appeal to the public would be just the push button. The American public has more

(Testimony of Charles E. Kilgour.)

or less of a push button complex. They don't want to do anything more than they have to.

Q. By the Court: When did you say you started to develop this? Was it the latter part of 1937?

A. We were working on it most of the year 1937 and it finally came out and was finished up in the latter part of 1937.

Q. By Mr. Yungblut: What can you say of the accuracy of tuning required, Mr. Kilgour?

A. As has been pointed out here the mechanical accuracy is quite acute. A very small motion of the dial will detune from a station. So the apparatus must be capable of repeating its operation very accurately. [357] Actually, when you get down to the motion of the bar, it is within a very few thousandths of an inch, enough to give trouble.

Q. You stated that cost was one of your criteria. Was there any problem in connection with cost and accuracy in your department?

A. Of course, they always go together. The type of design we must have is such a design that the parts may be made by simple or low cost mechanical processes, principally those of stampings or press work. And of course, all these are combined with screw machine parts, springs and things of that kind which, by the very nature of the design, will insure sufficient accuracy, without calling for accurately machined parts.

Q. Are the parts in the Crosley tuners simple stampings, as you say?

(Testimony of Charles E. Kilgour.)

A. I believe they are excepting a few screws, springs and so on, that are usually present.

Q. What can you say or have you any information as to the cost of this Crosley tuner?

A. I believe it cost somewhere along about 60 cents, that is, the tuner itself without the condenser.

Q. Now, can you speak as to coaxiality in the Crosley tuner?

A. When the design was finished, the experimental design, it was sent to the routine design or drafting [358] department and, without any particular thought or attention being given to the subject, the design was made coaxial.

Q. What do you mean by that?

A. I mean that the nominal dimensions of the drawing show that the axis of the cam, as we call it, or tappet, coincides with the axis of the rocker bar when the two are in engagement; but, of course, in actual commercial production there may be considerable misalignment. You see, the rocker bar is mounted on the ends of sort of a frame and the operating members that support the cam slide in slots on the front and back of the frame and there are a good many parts go together to construct the frame. So that there is a possibility of the addition of ordinary engineering tolerances which might make quite a large inaccuracy in that respect.

Q. When you spoke of drawings, what drawings did you mean, when you spoke of final drawings?

(Testimony of Charles E. Kilgour.)

A. Well, when they decide to put an article that has been experimented with in production it is turned over to the drafting department with the idea of the developing engineer and the drafting department, with their mechanical designers, go ahead and lays out the parts and checks their fitting together and so on, and gets the drawings in a condition to turn over to the purchasing department so parts may be bought.

Q. Then, these were drawings for the purchase of what, [359] did you say?

A. Of parts for this tuner.

Q. As I understand you to say, Mr. Kilgour, you would turn over to your drafting or designing department these sketches, perhaps showing the general form of this thing? A. Yes.

Q Those sketches, did they show coaxiality?

A. I don't remember that I saw the exact sketches that were turned over. I am not sure that they did.

Q. Did they have dimensions on them, for example?

The Court: Do not the sketches speak for themselves?

Q. By Mr. Yungblut: Have we any of those sketches here? A. No.

Q. We do not?

A. Very frequently with a thing like this the engineer gets an idea and goes out to our model room and talks to the model maker and says, "I want you to make me up a model like this." He makes it

(Testimony of Charles E. Kilgour.)

up just enough to see that the principle works, and those ideas are turned over to the drafting room, often very informally. The engineer may go into the drafting room and explain to the draftsman just what he has in mind and work with him while it is being developed.

Q. What would you say as to the advisability of getting engineering when you are making a device up from simple stampings, anyway, in which there is not to be any machine [360] work?

A. Well, of course, obviously the more skill you can get into the design the better off you are going to be when you get into the production:

Q. Can you explain that a little more fully?

A. One of the old wisecracks around the engineering departments is: "You want to put in a dollar's worth of brains and five cents worth of material." In other words, the more forethought and care that can be used in trying to appreciate the problems that will be gotten into, not only in production but in use, of course, the better off you are.

Q. You would say, then, that the Crosley device as laid out on the working drawings had coaxliality as a matter of design, wouldn't you?

Mr. Flam: Just a moment. Isn't that calling for hearsay evidence now?

Mr. Yungblut: Well, one of the drawings, Mr. Flam, is in evidence as part of the depositions. There is one of those working drawings there.

Mr. Flam: I thought this witness was testifying,

(Testimony of Charles E. Kilgour.)

about something that has not actually been identified as yet.

Mr. *H*ungblut: Would you like to have him re-identify this drawing?

Mr. Flam: Well, I don't care. I don't know which drawing he means, that is all. It seems to me he is talking [361] about some other drawings.

Q. By Mr. Yungblut: I hand you a drawing marked Defendant's Exhibit 5, Mr. Kilgour, and ask you what that is.

A. That is a drawing of what was called the key finger, referred to in this drawing as a tappet, a push button operated mechanism.

Q. Are there dimensions on that drawing?

A. Yes.

Q. Do those dimensions indicate any particular location of pivot point of the cam with respect to the contacting parts or fingers of the cam?

A. Yes, They show that this——

Mr. Flam: Just a moment. I don't know whether you have laid a foundation for his testifying about drawings of that kind. I do not know whether he made them or who did make them.

The Court: Isn't he in a position, from stating his official position with the company, to explain a blueprint?

Mr. Flam: Well, all right.

Q. By Mr. Yungblut: I would like to ask you whether you were familiar with this drawing at the

(Testimony of Charles E. Kilgour.)

time it was made and with the development with which it was concerned?

A. I was familiar with the development in general and I have seen this drawing many times. I don't recall just when I saw it the first time. Of course, it was made as one of our regular routine drawings and bears the routine [362] date, etc., and went through the drafting room.

I believe there is an unanswered question there. [363]

Mr. Yungblut: Is there, Mr. Reporter?

Q. By the Court: When you refer to a date, do you refer to this February 8, 1938?

A. No; that is the rubber stamp of when they make the blueprint from the original tracing.

Q. This shows, then, that this was drawn on September 7, 1938?

A. No; that is a "No. 1". It is not very legible. I have since then examined the original tracing and find that under that "No. 1" there is a fleck in the tracing that makes it look like "9", but you will notice that the first change of this drawing, change A, was dated the 8th of February, 1938; so, of course, it must have been drawn before the first change was made.

Q. By Mr. Yungblut: I would like to ask you, Mr. Kilgour, whether in practice in the actual Crosley device there is coaxliality.

A. I would say there was practical coaxiality but not mathematical or exact coaxiality.

(Testimony of Charles E. Kilgour.)

Q. Well, why is that?

A. Well, because of the ordinary commercial tolerances in the various parts will give you some inaccuracies there.

Q. Would you state briefly how those inaccuracies might arise and in what parts?

A. Well, the frame, the part that supports both the rocker bar and the slide members, and in the parts themselves, [364] the frame and the cam and the hole in the slide member—any of those things can get off a little and then that throws the centers off.

Q. Have you found that makes a difference?

A. As far as I know, we have had no difficulty with any of these getting off-center, that is, being off-center has caused no difficulty.

Q. In the Crosley accused device, such as that in Plaintiff's Exhibit 22 or Plaintiff's Exhibit 10, is the plate or rocker attached to a shaft which is connected to the condenser?

A. No. The shaft is merely a pivoting screw which merely supports the end of the rocker.

Q. What would be an effect of connecting the rocker to a shaft and then connecting that shaft in turn to the condenser?

A. Well, as is more or less obvious, it would probably extend the length of the apparatus slightly to bring the shaft out and put a gear on the shaft; also, to put in additional members which might cause some little back-lash or wind-up that is not

(Testimony of Charles E. Kilgour.)

present when the sector or gear is connected directly to the rocker bar.

Q. If when the Leishman reissue patent came out in August of 1938, the Crosley Corporation had ceased its manufacture of these devices, what would have been its effect on the corporation and its business? [365]

Mr. Flam: I am not sure whether this man is competent to testify about that.

Q. By Mr. Yungblut: To your knowledge, Mr. Kilgour?

The Court: Just a moment. Read the question.

(Question read by the reporter.)

The Witness: Shall I answer it?

The Court: Just a moment. I presume this question is asked in support of one of your special defenses pleaded, is it not?

Mr. Yungblut: Yes, and in support of the intervening rights. I want to show what the situation would have been, or, rather, the situation in which the Crosley Corporation found itself at that time.

The Court: The objection is overruled.

A. Well, August is the time of year when radio production is just getting into full swing for fall and winter markets. Of course, the wholesale market must go a little bit ahead of the retail market. So that the busiest times are often the latter part of August, September and October; and to upset the program at that time would, of course, as any-

(Testimony of Charles E. Kilgour.)

body can see, have very serious consequences. The tooling is all done, parts are bought, production lines are laid out, advertising already in the magazines or ordered, and perhaps even quite a number of receivers already shipped to jobbers; and the most serious effect, of course, if the program were upset would be the delay in [366] business before a new line could be engineered and tooled up and gotten on the market.

Q. By the Court: Any time you have to make a quick change in your production it has a serious effect upon your business; that is what you are trying to say, isn't it, in substance and would have had? A. It certainly would.

Q. By Mr. Yungblut: I think you have given me a general answer, Mr. Kilgour. You know that that was true in connection with the particular device as exemplified by Exhibit 10?

A. Oh, yes. That device was used in a large per cent of our models that season. We had started to ship those models in June and July—May, June and July. We had our jobbers' meeting, as we call it, along in May, and the shipments had actually started shortly after that on some of the models; and then, more and more models were getting into production, so that by August we were in full swing.

The Court: May I ask counsel, if the device was an infringement that would not make any difference, would it?

Mr. Yungblut: An infringement of the reissue?

(Testimony of Charles E. Kilgour.)

The Court: Assuming that it was an infringement of the original patent, it would not make any difference how much inconvenience was created?

Mr. Yungblut: Not of the original patent; no.

The Court: But it is your claim that the question [367] is directed as to the reissued patent, is it? Mr. Yungblut: Yes.

Q. When, as you have testified, the final drawings for the purchase of the parts and tools were drawn up and contained this element of coaxiality as a matter of design, did you consider that there was anything inventive about that?

The Court: I did not hear that question.

(Question read by the reporter.)

Mr. Flam: I object to that as calling for a conclusion. I think that the court is supposed to know—

The Court: It is certainly calling for a conclusion and trying to get the so-called expert to—

Mr. Yungblut: I will change the question, if your Honor please.

The Court: —tell the court what to do: I am very much in accord with Judge Yankwich's discussion on experts. If you have read that you will limit yourself somewhat.

Mr. Yungblut: I will do so. I will change the question.

Q. Did the company make any attempt to patent the idea of coaxiality?

Mr. Flam: I object to that as irrelevant and immaterial to this issue.

(Testimony of Charles E. Kilgour.)

Mr. Yungblut: I think that is a question of fact, if your Honor please, showing what the company thought of [368] it at the time.

The Court: Ask him if there was any application for any patents made on this push-button tuning device.

Mr. Yungblut: I will do so.

Q. Were there any applications for patent made on the Crosley push-button device? A. Yes

Q. Was coaxiality claimed in those applications?

The Court: I think that those applications speak for themselves if the patents were issued.

The Witness: They are not.

Mr. Yungblut: They are not issued. They are still pending, if your Honor please.

Mr. Flam: That is one of the applications, I think, that we talked about.

The Court: That is with the interference?

Mr. Flam: Yes.

Q. By Mr. Yungblut: As to the application to which you have referred, does that application show coaxiality? I will call your attention to the Howard J. Tyzzer application, Serial No. 192,258, marked for identification as Plaintiff's Exhibit 21.

The Court: May I ask counsel, for my information, is this the only application made, this one set forth in this?

Mr. Yungblut: No. There were several others.

[369]

The Court: Several?

(Testimony of Charles E. Kilgour.)

Mr. Yungblut: Yes. None of them showed coaxiality, as a matter of fact.

Mr. Flam: I do not know how far your Honor would like to go on that with this type of testimony. I do not think it is going to be of much value one way or the other.

The Court: Well, the only thing is, it looks to me—I want to find out how consistent the defendants are here. They claim that your patent is invalid and then they turn around make an application for a patent for the same thing. I am rather interested to see.

Mr. Yungblut: As a statement of counsel, if your Honor please, there were other applications, none of them relating to coaxiality.

A. The drawings show in this particular application several types of operating members which work on the rocker bar. One type is the so-called tappet type, but the tappet shown is not of the coaxial type.

Q. By the Court: You have not claimed the rocker bar and tappet device is patentable, have you?

A. Some of the combinations of the apparatus.

Q. By Mr. Yungblut: That application and the others you remember, weren't they on push buttons?

Mr. Flam: Just a moment. I object to asking about applications that are not here. The applications speak for themselves. [370]

(Testimony of Charles E. Kilgour.)

The Court: I think your objection is well taken. Objection sustained. If you are going to refer to any other applications, why, the court would like to see them. It would be very much interested in them. Mr. Yungblut: Yes.

The Court: Because you have made a claim here of invalidity. Mr. Yungblut: Yes.

Q. Isn't this but an application on features of the push-button mechanism?

Mr. Flam: Will you read that? I can hardly hear.

(Question read by the reporter.)

Mr. Flam: Objected to as leading.

The Court: I think it is trying to sum up something that the court could find out by reading it, perhaps.

A. As I remember this application, with which I was familiar at the time, it is on the combination of the push-button mechanism operating a rocker bar, but no mention is made of coaxiality, no claim is made for coaxiality.

Q. By Mr. Yungblut: Were you familiar, Mr. Kilgour, with the applications that were filed on this device?

A. Yes. At that time one of my duties was to make contact with our patent firm, the Allen & Allen Company on patent matters.

Q. Were any applications drawn or filed claiming the feature of coaxiality? [371]

A. No.

(Testimony of Charles E. Kilgour.)

The Court: Just a moment now. I am not going to admit that. I think that you are asking this witness to testify to something that is in writing and if you want to get that in evidence, why, you get your applications in.

Mr. Yungblut: I would like to have the witness' answer for the purpose of the record.

The Court: I am not going to admit it, because you know and I know that you can't ask a witness here to testify to the contents of a written document when that written document is available.

Mr. Yungblut: Yes; and I will secure and introduce the patent application.

The Court: Then, if you do it, you have the record before us.

Mr. Yungblut: Of course, that line of proof, if your Honor please, simply went to the point that there were not any such applications.

The Court: All right. You have a method of proving it and you know how to prove it without using secondary evidence.

Mr. Yungblut: Very well.

The Court: It is apparent to the court that the reason that you are trying this way is that you do not want your applications to appear for the court to see what you were claiming. Now, that is the attitude that the court takes in [372] the matter, if you are suppressing the contents of your application, without disclosing the full set-up.

Mr. Yungblut: The applications are not here, if your Honor please. They are in Cincinnati.

(Testimony of Charles E. Kilgour.)

The Court: I know; but you came here to try this case.

Mr. Yungblut: I will be very glad to introduce them.

Q. I want to ask you one other question, Mr. Kilgour. You spoke of an engineer in drawing up these drawings making the pivots coaxial. What was the position in the company of the man who did that, if you know?

Mr. Flam: Will you read that question? I can hardly hear.

The Court: I would like to have you read it. For some reason or other I can't hear you myself, or it is with difficulty that I can hear you.

Mr. Yungblut: I will speak a little louder.

(Question read by the reporter.)

A. He was one of our design engineers in the radio department.

Mr. Yungblut: You may cross-examine.

Cross Examination.

Mr. Flam: I think there is a later model of a Crosley mechanism here in evidence.

The Court: There is one that seems to be all ready to connect up. I am curious to try it. [373]

Mr. Flam: I think you have reference to this chassis here. I think I had better introduce the cabinet and the loud speaker in evidence, too, your Honor. This will not be sufficient for trying.

The Court: You would not admit it, would you?

(Testimony of Charles E. Kilgour.)

Mr. Flam: Oh, I think it is a good set.

Q. I show you Defendant's Exhibit F. I suppose you know what that is, being chief engineer of Crosley Corporation? That is one of their designs.

A. Let me correct you. Not chief engineer, chief research engineer.

Q. I beg your pardon. A. Yes.

Q. Do you know when that design was first made for the Crosley Corporation?

A. I am afraid I can't give the exact date, but I will say it was some time after the other one, or perhaps—well, perhaps late in 1938.

Q. How late? Was it after August, 1938?

A. Well, I would think so; yes.

Q. You think it was? [374]

A. I know this—I don't remember exactly, because I know the man who worked at this—the only substantial difference here is in the push rod we called the skate key type because it operates more or less like a skate key, with a right and left-hand thread; and a man worked up that type of key and it laid around in his desk for a good many months before it was decided to put it into production. And then later on, quite a bit later on, there came the particular application where it seemed to be suitable and it was placed in production. You see, this has the difference you do not lock that cam by the screw; you rotate the position of the cam by turning this screw; so you merely turn the knob on

(Testimony of Charles E. Kilgour.)

the front of the set to adjust it, push it in and turn this knob instead of turning your main knob; so it gives you a slightly different type of construction which is somewhat more convenient and somewhat more expensive than the other.

Q. When did it first go on the market?

A. I am sorry I can't remember. I would say somewhere around the last of '38 or the first of '39, and I am not sure about it. That is very inaccurate.

Q. You said that it was developed about the last of 1938. And it went on the market after it was developed?

A. That is when it was developed for commercial development to go on the market.

Q. For what year's set, do you remember? Would it be [375] for the 1939 year or for 1940?

A. It was first used, I would say, in '39, but I am not quite—that is only very inaccurate information.

Q. Do you know who the chief engineer was for Crosley Radio Corporation in the summer of 1937?

A. If you will allow me a little explanation of our set-up, we have several engineering departments. We make refrigerators and so on. I suppose the man you are interested in was the chief engineer in charge of radio design?

Q. I will qualify it that way.

A. What was the date you mentioned?

Q. In the summer of 1937.

(Testimony of Charles E. Kilgour.)

A. His name was Howard J. Tyzzer.

Q. He was the chief engineer?

A. Of radio design.

Q. Wasn't there a Mr. Johnston or Johnson there?

A. No. No; Mr. Johnston was there in—did you say 1937?

Q. 1937.

A. I beg your pardon. You are correct. Mr. Johnston left the last of '37. And Mr. Tyzzer took over the first of '38 as chief engineer, although Mr. Tyzzer was all that time directly in charge of radio design under Mr. Johnston who had extra duties. He was really chief engineer of the whole plant.

Q. Mr. Johnston you mean? [376]

A. Yes.

Q. Under his category would fall not only radio but these other Crosley developments mentioned?

A. That is right.

Q. Do you know when the Crosley Radio Manufacturing Company first determined to put out a push button tuning device?

A. Well, I think it was very early in '37 or in the winter of '36 Mr. Crosley propounded the problem that he wanted a push button radio receiver.

Q. You have nothing except your recollection about time?

A. That is correct, except I know we started to work, one of our men started experimenting on such a device in the late spring of '37.

(Testimony of Charles E. Kilgour.)

Q. How long did the experimentation take?

A. Well, he worked all summer and in the fall we decided to go into production on his device, but is seemed to be a rather difficult one to work out practically; and Mr. Tyzzer got the idea of this other mechanism and we switched over to it and went ahead with it.

Q. In other words, there was a prior development in connection wtih push button tuners antedating the type that we are talking about here?

A. Yes, sir.

Q. Did that have a treadle bar on it, do you know? A. No. [377]

Q. You have mentioned Mr. Tyzzer. Is Mr. Tyzzer still engineer, chief engineer in charge of the radio department?

A. No; he is not. He left last June.

Q. Who is the engineer now?

A. Mr. Clarence Felix, that is, in charge of the radio engineering. Mr. Tyzzer started out here for the first trial and got to Indianapolis and was called back.

Q. You have talked about this application, Plaintiff's Exhibit 21 for identification.

Your Honor, I might offer that now in evidence. I think we have had enough foundation for it now.

The Court: It will be admitted.

Mr. Yungblut: No objection.

Q. By Mr. Flam: Do you know the contents of that application?

(Testimony of Charles E. Kilgour.)

A. Well, I would say I do, without studying it, because we had several, but I may be a little bit confused in my mind after this interval of time.

Q. All I wanted to ask was: Do you know whether or not that application is the one which shows the tuner mechanism such as incorporated in Exhibits 10 and 22?

A. May I see that exhibit?

Q. That file wrapper. A. Yes.

Q. I do not want you to take the time to examine it. [378] Only if you know.

A. I will just look at the drawing. That will be enough. Yes; this shows a drawing or a development very closely equivalent to the commercial article used in these exhibits.

Q. I show you the back cover of August, 1937, Radio Retailing, Plaintiff's Exhibit 6. Does that back cover show anything with which you are familiar? A. The inside back cover?

Q. The inside back cover.

A. Yes; that shows some radio receivers of our Crosley Corporation.

Q. That is an advertisement of the Crosley line at that period, I presume. A. That is right.

Q. I call your attention to that circular figure in the lower left-hand corner. What is that? What kind of a mechanism is that, if you know?

A. As it is called in the advertisement, it was a quick tune dial. In other words, it is this type

(Testimony of Charles E. Kilgour.)

which has been referred to heretofore as the telephone type dial.

Q. Is that the kind of dial that is shown in one or two of the other figures here? I call your attention to what is termed a Fiver Console.

A. Yes; that seems to have the same type of tuner.

Q. Will you explain, if you are familiar with that [379] tuner, how it was supposed to operate?

A. Very roughly, it merely rotated the—it was connected to the condenser mechanism so that if you put your finger in the button marked for a certain station and rotated it down to the bottom where you would hit a stop, it approximately tuned in that station, only very approximately.

Q. I suppose you used what has been termed automatic frequency control circuit in connection with that?

A. I don't remember, but I don't believe an automatic frequency control circuit would have been sufficient to correct for the inaccuracies there. You would get it approximately and then you would take hold of the manual control and finish up tuning. It was more or less of a makeshift, I must admit. It was not much of an engineering proposition.

Q. Do you know when the Crosley Corporation developed that telephone dial type of tuner mechanism?

(Testimony of Charles E. Kilgour.)

A. Of course, with this magazine in front of me, I would say they had it on the market in 1937.

Q. It was developed before then, of course?

A. It must have been developed some time before this publication.

Q. What is the usual practice, if you know, about these ads? Would ads be inserted in magazines about contemporaneously, or a month or so after a set was developed and [380] ready for market?

A. Of course, advertisements usually must be placed some time ahead of the publication date.

Q. About how far ahead would you say?

A. I am not an advertising man. It depends on the magazine, as I understand it, but a month or so, something of that kind, maybe two months in extreme cases.

Q. That Crosley set shown on that back cover must have been ready to go on the market at least a month before that magazine appeared?

A. I would say the probabilities were it was ready for our line, which is usually announced early in the summer of each year.

Q. Early in the summer. By that you would mean—

A. June or July.

Q. You would mean May, June or July?

A. Yes.

Q. In other words, you would have to go back a few months before the ad appeared before the ad would be approved, I suppose?

(Testimony of Charles E. Kilgour.)

A. That is right. But sometimes they work very fast—so fast that sometimes ads are wrong. Sometimes changes are made after the ad is ordered, unfortunately.

Q. You said something about the development of this tuner exemplified in Plaintiff's Exhibit 10. I think you said that some sketches were made and then it was developed [381] on a drafting board or something of that sort. Did you develop this?

A. No.

Q. Did you make these sketches? A. No.

Q. Do you know who did?

A. Of course, the actual draftsman who detailed that part, his name or initials appear on there. I don't know whether I would know him from the initials or not. Howard Tyzzer made the original sketches which portrayed the general idea.

Q. Didn't you assist him in the development of that device?

A. My position is one that I do not ordinarily get into the regular developments; but if on some problems where the designer feels that two heads are better than one, I am sometimes called in. I remember I was called in particularly on the development of a locking means for this cam in our device.

Q. You were? A. Yes.

Q. What kind of a locking means did Mr. Tyzzer have before you got in on it?

The Court: Gentlemen, I notice the hour, so we will adjourn until 2:00 o'clock.

(Recess until 2:00 o'clock p.m. of this day. [382]

Afternoon Session.

2 o'Clock.

(Appearances as last noted.)

The Court: You may proceed, gentlemen.

CHARLES E. KILGOUR

recalled.

Cross Examination

resumed.

Q. By Mr. Flam: I think we were talking about the locking mechanism on the accused Crosley device when we adjourned, such as shown in Exhibit No. 10, and I think you said that you devised or improved the locking mechanism on this device.

A. I said I got in on some of the work on it. The general form had been devised some time before but some little difficulties came up and some details and the exact shape and so forth were worked over.

Q. By "were worked over" do you mean that you worked them over?

A. I helped the engineer and the designer who was on that more in the theoretical line. He was worrying about what was involved in such a device, that is, what were the stresses and so forth and what was necessary to improve it, and I tried to work out the theory of it.

Q. Is that Mr. Tyzzer you are talking about?

A. Mr. Tyzzer and one of the draftsmen or en-

(Testimony of Charles E. Kilgour.)

gingers. The development was all under Mr. Tyzzer's direction. [383]

Q. Is the form of locking device in Exhibit No. 10 the same as disclosed in this application Plaintiff's Exhibit No. 2?

A. Substantially so; the same general principle.

Q. I mean is the structure the same aside from principle. It is not exactly the same, is it?

A. I would say within the accuracy of a patent drawing it is.

Q. What do you mean by within the accuracy of a patent drawing?

A. A patent drawing shows more or less the general idea, without having mechanical exactness, very frequently.

Q. Was there anything else in connection with this tuner mechanism, Exhibit No. 10, that you had anything to do with in the way of development?

A. Not specifically; no. In general, I was familiar with what was going on.

Q. Over how long a period was this process of development of that tuner taking place?

A. I think the first suggestion was made in October, 1937 and the device was actually put on the market in January, 1938 so that the development must have been finished about the end of 1937 at least.

Q. And what it was intended to displace was what we have been calling the telephone dial type, is that right?

(Testimony of Charles E. Kilgour.)

A. Not necessarily. The telephone dial type was used [384] commercially just before this but it could hardly be regarded as an equivalent.

Q. I mean that in between the time the Crosley Radio Corporation was marketing the telephone dial type and this type there was no other type of mechanical tuning?

A. No other type on the market; no. The automatic—well, you must remember that, beginning some time back, we had what was called electric tuners which were the push-button type tuner.

Q. I am referring to mechanical tuner.

A. And they continued on to this time and some even later.

Q. I was referring to a mechanical tuner.

A. There was no mechanical type.

Q. And I assumed you were referring to the mechanical type. I think we understand that now.

A. No; there wasn't.

Q. So that the telephone dial type, you might say, was dropped in favor of the treadle bar type, if I might call it that?

A. I would say so. Our particular telephone dial was never very successful. It would have been dropped anyway.

Q. I think you stated on your direct examination that the parts for the treadle bar type would have to be made to fit close tolerances in order to be accurate. Is that what you meant? [385]

A. I don't believe so.

(Testimony of Charles E. Kilgour.)

Q. What was it that you said there in that regard?

A. I don't remember exactly, but the sense of it must have been that we try to make our designs such so that, with parts that could be rather cheaply made, we could obtain the necessary accuracy.

Q. What would be the tolerances that you could tolerate for quantity production in connection with these devices?

A. Well, one of our standard practices on our drawings is to call for tolerances of plus or minus .015; but that may be misleading in some cases because, of course, when a piece is made off the die they may be all just alike; so it is a matter of getting that die accurate enough; and usually it runs much closer than that but as a die wears it may change somewhat. We try to make our design to accommodate such things. If you notice—have you Exhibit 10 here? For instance, where the slider bars go through the frame they are held in there by a secondary bar that holds them down and the back—the front this is, where they go through the frame there is a little washer there. When you tighten this screw it pulls that washer down against the edge of the bar and holds it at a certain pressure against the bottom slot; so you do not have to have great accuracy of fit between the width of the slider and the width of the slot.

Q. Would .005 of an inch be too close for manufacturing [386] purposes in the way of tolerances?

(Testimony of Charles E. Kilgour.)

A. As I say, that is variable. No. Some parts of it may have to be held closer than others and you would not care if it was 15 or 20; and in this particular case, judging from the variation, I do not believe you have to have extremely close tolerances there.

Q. I notice in your deposition that was taken in Cincinnati the blueprint identified as Defendant's Exhibit 5 shows a series of numbers designating the model numbers of the sets. The prefix "A", does that mean automobile type?

A. I think it does. I am not sure. In some cases it did; in others it did not. Our system differs.

Q. What is the purpose of the "A" if not to denote automobile type?

A. We have had various systems and they run out of serial numbers and they put a letter in this case. I think in this case the "A" denoted automotive type.

Q. Automotive type? A. Yes.

Q. I think I understood that the last number, such as "8" or "9" would mean the year 1938 or 1939?

A. That was true at that time; yes.

Q. When Crosley Manufacturing Company gets ready with a radio set to go on the market how long a period is required to make the tools and dies?

A. Oh, that is rather variable. Anybody that has been [387] in the radio business knows it is rather a hectic affair sometimes. Sometimes we have time

(Testimony of Charles E. Kilgour.)

for ordinary commercial production and other times somebody brings out something we feel we have to meet and we jump into it fast.

Q. When were the tools and dies completed for the push buttons and their associated mechanism of the Exhibit 10? [388]

A. They must have been completed in time to make deliveries of the parts in January or December of 1937 and 1938—not respectively, because we actually sent sets out in about the middle of January.

Q. The tools and dies were all completed at that time? A. They must have been.

Q. When you change— A. Of course—

Q. Go ahead.

A. I was going to say that that particular model. Of course, we brought out subsequent models and they did not get into production before the summer.

Q. So far as the parts for the push buttons were concerned you had the same mechanism for all the models, didn't you?

A. So far as the push, that is, the actual individual push rod.

Q. Yes.

A. But so far as the total device, no; because some sets had four buttons, some had six, some had five, and that required different frames and different rocker bars.

Q. Now, when you changed over, for example, from the telephone dial type to the push-button

(Testimony of Charles E. Kilgour.)

type, you needed a new set of dies to accomplish that, tools and dies, to accomplish that change, as I understood? A. Yes. [389]

Q. Now, when you were going into 1939 production instead of 1938, for example, utilizing the push-button principle, did you have to make new dies for the 1939 models?

A. Well, to some extent probably. Of course, whatever parts, individual parts, could be used are held over; that is, in this case if we used the same push-rod mechanism, of course, tools and dies would still be used in '39. If, for instance, we had a new type of die, which is one of the faddish things on a radio set and is changed quite frequently, we would require a new bracket here to accommodate the different types of pointer or what not that we had.

Q. As a matter of fact, every year you had to make a lot of new dies to fit the particular year's production, didn't you? A. That is correct.

Q. I think you mentioned that the cost of a push-button was 60 cents?

A. A push-button mechanism.

Q. Mechanism. I just wanted to get——

A. Without the condenser.

Q. I just wanted to get at how much that included. Did that include everything in one individual push button or a bank of push buttons or what?

(Testimony of Charles E. Kilgour.)

A. Well, to be frank, my information is not very exact. I wired for that a day ago and got it; and I said I wanted [390] the mechanism without the condenser or knobs.

Mr. Flam: Well, then, I move to strike that part of the testimony.

The Court: What difference does it make if it costs 60 cents or $60?

A. The answer I got back was 65, and I think that is right. They might have included this panel in some way. You see I did not say to leave the panel off; so there is some doubt there, but it is somewhere under 65 cents.

Mr. Flam: Well, it does not matter, as his Honor says.

Q. In these treadle bar tuners, such as Plaintiff's Exhibit 10, do you know what the angular movement of that treadle bar is supposed to be?

A. I have never checked it exactly but it is my impression—I don't know how accurate it is—it is around 60 degrees.

Q. So there is a 60-degree movement of the treadle bar between its extreme positions?

A. Something like that.

Q. That is what you mean? A. Yes.

Q. And it does not go completely to the——

A. That is right.

Q. It does not make a complete revolution?

A. That is right.

Q. It is very definitely stopped between——

[391]

(Testimony of Charles E. Kilgour.)

A. It could be very easily calculated by comparing the radii of that gear because this goes to 180. Divide that 180 degrees by the ratio of these radii.

Q. I did not want anything very accurate. I just wanted the general statement. It is about 60?

A. That's about right.

Q. And I think that is about right. How is the rocker in that mechanism operatively connected to the condenser in the Exhibit 10?

A. There is a mechanism which might be called a sector gear because it is only part of the gear which is riveted directly to the rocker bar or rocker plate, whatever you call it.

Q. The important thing about that transmission mechanism is that it moves the condenser or other tuning element in accordance with the movement of the rocker, is that right? A. Correct.

Q. I want to show you the February, 1938, issue of Radio Retailing, again that inside back cover. Is the advertisement carried on that inside back cover an advertisement of the set incorporating these mechanical push buttons? A. It is.

Mr. Flam: I want to offer the back cover of this issue of Radio Retailing, February, 1938, in evidence. [392]

The Court: May I ask the purpose of it? I am trying to follow counsel and I am trying to find out for myself the purpose.

(Testimony of Charles E. Kilgour.)

Mr. Flam: I do not believe this witness is going to be put on his guard about this. The purpose back of it is that these ads all show commercial advertisements of this type of mechanism in February, 1938, and already to go; and on the witness' own statement this morning, he said that they must have been already to go, at least a month or so before the ads appeared; and that has a bearing on this question of intervening rights.

The Court: That is on your theory of the law that if they were prepared to manufacture these articles before the reissue——

Mr. Flam: Before the original patent was issued.

The Court: Before the original patent. In other words, I can't state it in the exact language that I want to state it, but I remember you stating it in your pretrial brief.

Mr. Flam: Yes, your Honor is right.

The Court: Your theory of the law on that question.

Mr. Flam: Yes. That is the basis I am putting this in on. These ads——

The Court: I would like to make inquiry. Your original patent was not issued until after this date, was it?

Mr. Flam: I don't know the exact date of it. I think [393] it was——

The Court: I have it here.

Mr. Flam: February 15, 1938, I am informed.

(Testimony of Charles E. Kilgour.)

The Court: What effect does this have, assuming that this evidence is true, that in the latter part of 1937 these people, the Crosley people, developed a push button using a similar device, that is, that you claim is infringing your device?

Mr. Flam: The theory, of course, is my aspect of the theory of intervening rights. Under that theory, if they began the manufacture of a device which becomes an infringement after a patent issues, but they began to manufacture before the original patent issues, then we have a different situation in the case where some one happens to start later.

The Court: What is the legal effect? I may be showing my lack of knowledge. But what is the legal effect of saying, for instance, two people develop a similar device approximately at the same time?

Mr. Flam: Well, of course, if the Patent Office believes that there is some conflict between the inventors on the question of priority, it goes through a very complicated system.

The Court: We will assume, for instance, that your patent was issued in February, 1938 and that in December, 1939 the defendant developed a device that, according to your contention, infringes your device. [394]

Mr. Flam: I think I know what your Honor means. In other words, if we have a case of an ordinary patent and no reissue involved at all, and

(Testimony of Charles E. Kilgour.)

that patent issues after someone starts making that device, there is no such thing as intervening rights in that case.

The Court: But who has the first claim to that device? Is it the first man that asked for it?

Mr. Flam: Often that is the case but, if there are two rivals, both of whom desire to obtain a patent, the Patent Office decides who is the first inventor in point of time and to the first inventor goes the patent protection. In this case there is no question of priority because we date our application back to December, 1934 and at least the presumptive date of invention is no later than that. Of course, the Crosley Corporation does not pretend it was doing anything in connection with this field until long after December, 1934. So there is no question of priority here. I don't know whether I have answered your Honor's question or not.

The Court: You have answered it.

Mr. Flam: I don't think your Honor ruled on this. I offered this in evidence.

The Court: Is there any objection?

Mr. L. S. Lyon: No objection.

The Clerk: Plaintiff's Exhibit No. 32.

The Court: One of the arguments in this case may be [395] on the very theory of law that you are advocating.

Mr. Flam: Yes.

The Court: That is one of the points that you gentlemen will have to argue.

(Testimony of Charles E. Kilgour.)

Mr. Flam: I am afraid so.

The Court: All right.

Q. By Mr. Flam: I show you page 141 of the issue of Motor for April, 1938 and ask you whether that page discloses an advertisement by the Crosley Corporation of a set incorporating the push button mechanism of Exhibit No. 10.

A. It does, or not Exhibit No. 10. You see, Exhibit No. 10 is for this particular dial and the automobile receiver had an entirely different dial. So there would be a different set of arms up here or something of the kind.

Q. But the push button was the same, is that right? A. I believe so.

Mr. Flam: I offer that page in evidence, your Honor.

Mr. L. S. Lyon: No objection.

The Court: Admitted.

The Clerk: Plaintiff's Exhibit No. 33.

Q. By Mr. Flam: I have two more here. The first is page 43 of the April, 1938 issue of the Automobile Guide. Will you answer the same in connection with that advertisement?

A. It appears to be the same advertising copy as in the other issue. [396]

Mr. Flam: I offer that page in evidence.

Mr. L. S. Lyon: No objection.

The Court: Admitted.

The Clerk: Plaintiff's Exhibit No. 34.

(Testimony of Charles E. Kilgour.)

Q. By Mr. Flam: Last, I show you page 15 of the issue of April, 1938, of the Automobile Trade Journal. Will you answer the same question with regard to that advertisement?

A. It appears to be the same advertising copy.

Q. To your knowledge, do you know whether there were any other advertisements about that period similar to these shown in these magazine pages?

A. Not from my personal knowledge, although I know we did quite a bit of substantial advertising.

Mr. Flam: I offer page 15 of the April, 1938 issue of the Automobile Trade Journal in evidence.

The Court: Admitted.

The Clerk: Plaintiff's Exhibit No. 35.

Mr. Flam: That is all.

Mr. Youngblut: No redirect examination.

Mr. L. S. Lyon: At this time the defendant desires to offer in evidence a certified copy of the file wrapper and contents in the matter of original patent No. 2,108,538.

The Court: Is that the 1934 or the 1938 patent?

Mr. L. S. Lyon: That is the file wrapper upon which the original patent containing this original claim 5 was [397] issued and the application was filed on June 19, 1937, so it seems.

Mr. Flam: I think that is the patent upon which the reissue was based; not the 1934 case.

Mr. L. S. Lyon: Not the parent one?

Mr. Flam: No. [398]

(Testimony of Charles E. Kilgour.)

The Clerk: Exhibit H.

Mr. L. S. Lyon: As Exhibit I, we offer a cer tified copy of the file wrapper of the reissue paten in suit No. 20,827. These two file wrappers together your Honor, will give you the Patent Office action and the replies thereto and show what claims were allowed and how they were distinguished from claims that were rejected both in the original patent and in the reissue patent. We call Dr. Mackeown

[399]

SAMUEL S. MACKEOWN,

a witness for the defendant, being first duly sworn testified as follows:

Q. By the Clerk: Will you state your name

A. Samuel S. Mackeown.

Direct Examination

Q. By Mr. L. S. Lyon: Where do you reside Dr. Mackeown?

A. In Pasadena, California.

Q. What is your age? A. 44.

Q. What is your occupation?

A. I am associate professor of electric engineering and physics at the California Institute of Technology.

Q. How long have you been a member of the faculty of the electrical engineering school at the California Institute of Technology?

(Testimony of Samuel S. Mackeown.)

A. I have been a permanent member of the staff since 1926. From 1923 to 1926 I was a national research fellow of the Rockefeller Foundation and working at the California Institute of Technology.

Q. Do you hold a degree in electrical engineering?

A. No; I do not hold a degree in electrical engineering.

Q. Where did you get this, Doctor?

A. I hold the degree of doctor of philosophy from Cornell in 1923. [400]

Q. Based on scientific work?

A. In physics and chemistry.

Q. In the course of your duties at the California Institute of Technology, what, if anything, do you have to do with the subject of radios or radio transmission or radio reception?

A. I handle all of the courses in both the undergraduate and graduate school on, let me say, commercial radio.

Q. Does that include the design and operation of radio receivers? A. That does.

Q. And in that connection are you acquainted with the subject of tuning of radios?

A. Yes.

Q. And the appliances employed for that purpose? A. Yes.

Q. How long have you been devoting your time at the Institute to the subject of radio?

A. All my time at the Institute is devoted to

(Testimony of Samuel S. Mackeown.)

radio and communications and the field of electronics. They are all tied together in one general field and I have charge of all of that work.

Q. What courses do you give bearing on the subject of radio?

A. Well, I give a course—there are a number of [401] courses but I give a course called vacuum tubes, which deals fundamentally with the principles of radio tubes which are incorporated in radio sets and which have their biggest use in radio sets, and I follow that with a course on radio. These are undergraduate courses. Then we give a course in the electronics laboratory and then in the graduate school I have a number of advanced courses on radio and subjects which are necessary to understand completely the radio theory. They may be theory courses but they have primarily to do with the subject of radio.

Q. In connection with the subjects that you are particularly posted on at the Institute, have you in the past had occasion to testify in patent cases and explain to the court various scientific devices and in making scientific comparisons? A. I have.

Q. Over what period of time have you had that experience?

A. I think the first time I was asked to do that was in 1926, in the fall of 1926, and there have been occasions since that time.

Q. You have appeared before several of the judges of this court in that capacity, have you not?

(Testimony of Samuel S. Mackeown.)

A. I have.

Q. By the Court: Has Mr. Lyon used you quite often?

A. He has used me more than anybody else. And I have worked for Mr. Flam, too, but not in court.

[402]

Q. By Mr. L. S. Lyon: In connection with your work on radio at the California Institute of Technology and your general education, what exposure do you have to the mechanical problems that are involved in radio receivers and their design?

A. The problems in radio are not only electrical but mechanical. I am not thinking of the tuning part particularly but I am thinking of such things as the loud speaker, which is a combined problem in electrical circuits, of the mechanics of the vibrating diaphragm and also in aerodynamics of the moving air mass, and the same with microphones and then these quartz crystals which are used to stabilize the frequency of oscillators. They are a mechanical oscillator vibrating with a frequency which is determined by their mechanical properties, not their electrical properties, but which serve to control the electrical properties. So that in radio and any subjects I teach mechanical problems are involved as part of the problems. You can't separate them.

Q. You are retained, are you not, as a consultant on radio matters, including radio receiving sets, by the Radio Corporation of America?

A. I have been.

(Testimony of Samuel S. Mackeown.)

Q. Will you tell us to what extent your experience and knowledge include the subject of machine design?

A. I took a course in my undergraduate work in machine [403] design. I have taught mechanics but I haven't practiced actual machine design myself.

Q. But you have had a college course in it and actually taught it yourself?

A. Yes. And, probably more important than that, a good part of my time is devoted to research work where it is necessary to build and design special equipment for special experiments which we want to carry out. And, of course, I think anybody who is in experimental research must be a machine designer, that is, you must build your apparatus so it will work and work the way you wish it to work.

Q. Can you explain to the court what is meant by machine designing and the profession of a machine designer, if there is such a thing?

A. Yes. There are courses in machine design and a machine designer is a person who knows how from his experience and his learning to properly coordinate mechanical parts so that they will produce the results in a machine which he wishes. Also, he should build the machine or design the machine in such a way, of course, that it will work satisfactorily over a long life and not have excess vibration and be balanced and have good mechanical proper-

(Testimony of Samuel S. Mackeown.)

ties. Those are the general functions of a machine designer.

Q. In connection with this experience you have had in [404] testifying in patent cases in this and other federal courts, have you become acquainted and are you familiar with the reading of patent drawings and patent specifications and the study of patent claims and their interpretation?

A. Yes; I am familiar with the reading of both claims and patent drawings and their interpretation.

Q. Have you examined and are you familiar with the disclosures of the drawings, specifications and claims of the patent here in suit?

A. I am.

Q. And have you examined the various exhibits that have been offered here in evidence, including those illustrating the defendant's accused device and the model of the plaintiff's patent drawing and the other exhibits that are here?

A. I have examined those you have specifically named but I have not examined carefully all of the others.

Mr. L. S. Lyon: I am going to refer, your Honor, to certain prior patents and I have had bound extra copies here in a book which I thought might be convenient to your Honor, in order to have all of these prior patents in one place.

The Court: Do you mean prior patents of the prior art?

(Testimony of Samuel S. Mackeown.)

Mr. L. S. Lyon: That we are going to rely on.

Mr. Flam: Mr. Lyon, would you mind giving us the numbers [405] now?

Mr. L. S. Lyon: I was going to offer them. As Defendant's Exhibit J, we offer in evidence a copy of the prior patent to Woodbridge No. 585,996, of July 6, 1897, entitled "Cash Register and Recorder".

The Court: As long as you have them bound together, can't they be introduced as one exhibit?

Mr. L. S. Lyon: We won't be able to refer to them separately, your Honor.

The Court: For instance, you could refer here to the Cunningham patent and say as set forth in exhibit so and so.

Mr. L. S. Lyon: Yes, your Honor; I can do that. I will just offer this book of prior patents, upon which the defendant will rely, as Defendant's Exhibit J. And I will state that the book includes the following patents——

The Court: The Woodbridge, Schaefer, Cunningham, Flaherty and Marschalk patents and Miller.

Mr. L. S. Lyon: That is correct.

Q. By Mr. L. S. Lyon: Dr. Mackeown, do you have before you a copy of the Schaefer patent which is included in Exhibit J? A. I have.

Q. That is patent No. 1,906,106.

A. I have.

Q. Are you familiar with that patent?

A. Yes; I am familiar with this patent. [406]

(Testimony of Samuel S. Mackeown.)

Q. Will you state how the disclosure of the device of that patent compares with the Zenith tuner which is Exhibit 3 in this case?

The Court: Here is the Zenith right here.

A. I would say that, except for some very minor differences, which are of no importance, these drawings are very accurate drawings of the parts and the apparatus of Exhibit 3.

The Court: The Zenith is Exhibit 3, is it?

Mr. L. S. Lyon: Yes.

Q. And the other Zenith is what?

A. It is Defendant's Exhibit A.

Q. Turning to Figure 3 of the drawings of that Schaefer patent, will you point out to the court the relation of pivot 55 to the parallel bars 32 and 34 in the operation of that device?

The Court: Did you say 32 and 34?

Mr. L. S. Lyon: Yes, your Honor.

A. It might be a little bit easier to see that on Figure 4.

Mr. L. S. Lyon: Yes; on the preceding page, on Figure 4.

The Court: I still can not find 32.

A. Here is 32.

Mr. L. S. Lyon: 32 is to the other bar.

The Court: Yes; I have it. [407]

Q. By Mr. L. S. Lyon: First, you might, by way of introduction, identify the particular parts that appear in this figure of the drawing by reference to the parts on Exhibit 3.

The Court: I recognize them.

(Testimony of Samuel S. Mackeown.)

Mr. L. S. Lyon: Very well.

A. I would like to refer to a separate arm, which may help, that was taken out of Plaintiff's Exhibit No. 3.

Q. Do we have that?

A. Yes; we have that.

Q. You may use this arm, which has been separated from Defendant's Exhibit A. And I will ask that it be marked for identification as Defendant's Exhibit K. Is there any difference between that arm and the patent drawing?

A. The only difference is in the shape of the lever 41. That is the only material difference.

Q. By the Court: Where is 41?

A. That is this lever. In the exhibit they are rounded a little bit and have a little greater strength than it is shown in the patent drawing.

Q. It releases in the same way, does it not?

A. Yes. There is no difference at all except in the actual mechanism proportions of some of the parts.

The Court: Do any of you gentlemen know whether, as a matter of fact, the Zenith Company used this patent in their device? [408]

Mr. L. S. Lyon: Is there a patent number on there? I doubt if this patent number would appear on there because, as I remember the testimony, these devices were manufactured along in 1929 or 1930.

The Court: It does not appear on here.

Mr. L. S. Lyon: And this patent didn't issue until 1933. It was an application up until 1933.

(Testimony of Samuel S. Mackeown.)

Q. Now, will you proceed?

A. Will you read back that question?

Q. By the Court: This tappet, Doctor, is exactly the same form, is it not?

A. Oh, yes; that is identical in shape and so is the locking mechanism with that shown in the patent. That is why I thought I would like to refer to it, simply so that the court could probably understand a little bit better from the physical exhibit than from the drawing how it operates.

Mr. L. S. Lyon: I don't think there is any question, is there, Mr. Flam, but what this Schaefer patent is the patent that the Zenith Company sought on this particular device Exhibit 3? You will notice on the patent that it is issued to the Zenith Radio Corporation of Chicago, Illinois.

Mr. Flam: Well, except for some variations in the shape of the parts and dimensions, I think the principle of the mechanics is probably very similar.

A. This axis 55 is so located that it defines—or it is [409] located at what we might call a unique point in the space between the rack and pinion which operate what have been called the elevators in the Schaefer device. The cam is built so that the pivot is on the same line that connects the points of the cam which contact the arms. That is specifically spoken of in the patent on page 2, starting at line 37.

Q. By the Court: In the first column of page 2?

A. I am sorry. Page 3. It is page 3. I would like

(Testimony of Samuel S. Mackeown.)

to read just one sentence that might need interpretation there.

> "The lower surface of rocker 56 is undercut at each side of its pivotal point 55 to provide proper operating clearance between it and the bars 32 and 34 and to define the diametrically opposite contact-toes 57 and 58, and the other contour of each of said contact-toes extends slightly beyond the arcuate upper surface of the rocker to provide abutments which serve to stop the rocker from being swung too far in either direction."

The important point is that that sentence teaches that the two contact points of the cam should be on a diameter and that diameter, of course, must pass through the center, that is, the pivot point; so that that sentence teaches that the pivot point and the two contact points of the cam should lie on one line of diameter of this circle.

Q. Is there any relation between the pivot and the tappet, what we call the tappet here, and the pivot where [410] the lever attaches to the bar?

A. There is, your Honor. That is what I was going to take up next.

Q. By Mr. L. S. Lyon: Will you please do that?

A. In addition to having the cam so shaped as to have its pivot contact points, the patent shows that the pivot point 55 is located at such a distance from the pivot of the lever about which it acts, that

(Testimony of Samuel S. Mackeown.)

pivot being 21 on Fig. 4, so that when the lever is pressed down the pivot point 55 is in the center between the two bars on which the elevator—the two racks on which the elevator bars are located. [411] So that we have the fact of the special shaped cam with the pivot placed in a certain definite place, and also the fact that the racks are located with respect to the pivot point of the lever in such a direction that there is symmetry about this pivot point 55.

Q. Referring to the reissue patent in suit, would you compare the arrangement provided by the bars 32 and 34 of the Schaefer patent with the parallel arms of one or either of the rockers shown in the Leishman patent?

A. You have the same kind of symmetry in the reissue patent 20,827. The distance from the pivot Q is chosen such that the pivot point 60 lies in the center of the rocker bars 48 and 54; and in addition, the point is located at what I might speak of as the vertical position so that it will, as the patent states, be coaxial with the shafts 25, 49 and S—the same general type of construction. They are both located at the symmetrical point.

Q. What do you mean by "symmetrical point"?

A. Well, as far as the rocker bars are concerned in the reissue patent 20,827, and as far as the rack and pinion, the bars and the rack of that Schaefer patent 1,906,106, the pivot is in each case at a point which has symmetry, in which the contact points

(Testimony of Samuel S. Macktown.)

of the cam move in a circle, make contact with either the rocker bars or the bars of the elevator in a circle, and both of these patents provided that the center of this circle shall be coaxial [412] with the center of the cam itself.

Q. Let us see, to get this language straight. There has been some reference to the word "concentric" here. Does that word apply to that same situation?

A. Yes; either "concentric" or "coaxial".

Q. Or "symmetrical"; they all mean the same?

A. Or "symmetrical". They are symmetrical around that point.

Q. Is there any difference in principle with respect to that "symmetry" or "concentricity" or "coaxiality" between the arrangement shown in this Schaefer patent and the one shown in the Leishman patent in suit?

A. No; there is no difference in principle about the symmetry. They both employ the same symmetry.

Q. Will you point out and compare the embodiment or arrangement by which that symmetry is accomplished in the Leishman patent in suit as compared with the Schaefer patent? Do they arrive at that symmetry in the same way or in a different way?

A. Yes; they arrive at it in exactly the same way. It is arrived at in the reissue patent by taking the distance from the pivot Q of the point 60, the

(Testimony of Samuel S. Mackeown.)

distance between 60 and Q, such a distance that when the lever is pressed home the circle so described will pass through the axis of the shafts; and then in addition, the tappets are so shaped and the pivot of the tappets is chosen with [413] respect to their shape such that, when there is contact between the tappets and the rocker bars, that the axis of the tappets and the axis of the rocker bars coincide.

In the Schaefer patent the same thing is done. The distance between the pivot 21 and the pivot 54 is chosen such that, as the lever is pressed down, the pivot 55 passes through the symmetrical point, this axis, that I spoke about formed by the contact of the cam and the bars; and in addition, the cam is so shaped, the pivot point is so chosen, that when the lever is pressed down and there is contact between the bars and the cam there will be coaxiality. Both devices use the same principle of your distance from your lever and then shaping your cam.

Q. Will you please state to the court what the character of this feature that you have been discussing amounts to? I mean, compare it with what is done in the ordinary designing of a machine by a skilled machine designer and state whether or not such an alignment of the pivots or such an accomplishment of symmetry is unusual or different from what is occasioned and expected in ordinary machine designing.

Mr. Flam: Just a moment. I will object to that, your Honor, on the ground that it calls for a con-

(Testimony of Samuel S. Mackeown.)

clusion that the court should make rather than the witness.

The Court: I do not get the purport of the question quite at that extent, but evidently Mr. Lyon is attempting [414] to show that the skill used here by the inventor was nothing more nor less than mechanical skill, and not invention or it did not reach invention.

Mr. Flam: That is substantially the sense of the question here.

The Court: Of course, I realize that eventually the court is going to have to pass upon that. But how is the court to know what is ordinary mechanical skill in this art unless somebody can explain what is the skill ordinarily demonstrated by an artist?

Mr. Flam: Of course, we are up against this difficulty: That this expert witness is not an ordinary skilled mechanic in the art and what he might say would be within the scope of an ordinary skilled mechanic, in his opinion, may be entirely incorrect. I think that the cases relating to this matter of proving mechanical skill only required to do something involved, bring in actual facts where a mechanic said, "I did this and nobody told me how to do it. I just naturally did it." Now, you have an opinion by someone that a mechanic would do it. There is the difference. I think mechanical skill, as against invention, can be proved that way. In fact, I have tried to do it several times,—get a mechanic on the

(Testimony of Samuel S. Mackeown.)

stand and say: "Before you ever heard of this device did you do this?" He will say, "Yes." "In the ordinary course of events?" "Yes." [415]

The Court: For instance, Mr. Flam, we have been talking about coaxiality. I am free to admit that in this case for the first time I have heard that expression. Now, it may be to my mind, as a novice, indicative of invention. On the other hand, a man who is an artisan might say that when in mechanical work that required that mechanical skill that these are the very things that we look out for and do in mechanical development, or in setting up any mechanism of any kind. I am just thinking out loud.

Mr. Flam: After all, it is merely an opinion.

The Court: That is all that any expert's testimony is, is an opinion. I told you gentlemen this morning I was much in accord with Judge Yankwich's article on experts in patent cases. I presume the doctor has read it.

The Witness: Yes; I read that.

The Court: And I am in accord with Judg Yankwich to the extent that it is going a long ways when an expert attempts to usurp the function of the court.

Mr. Flam: In other words, I think what we all agree to is that I can't expect an opponent expert to say there was invention in it. I know the defendant's answer to this question. He will say, "No; of course, it is perfectly obvious to do this."

The Court: That is one of the problems that the

(Testimony of Samuel S. Mackeown.)

court is going to have to face when it decides this case. [416]

Mr. L. S. Lyon: I do not know whether Dr. Mackeown is going to or not, but he testified in one of the principal cases that Judge Yankwich refers to as having tried in that article, and Dr. Mackeown thinks that all the nice things he said about experts were directed at him and none of the others. I do not know whether that is warranted or not.

The Court: That is the ordinary tendency of the human being. If people say good things and bad things, why, they believe the good things apply to them and the bad things to their neighbor. I think that is quite natural. The Doctor indicates he is very human.

Mr. L. S. Lyon: I do not want to lead the Doctor at all but I wish you would answer the question which the court indicates is one that the court is entitled to some technical experience or advice on.

The Witness: I would like to have the question read back.

Q. By The Court: Let me ask the Doctor. You have heard here the testimony. There has been considerable discussion on this subject of coaxiality. As a matter of mechanical skill is there anything unusual that that feature should be watched in mechanical construction?

A. I think it should be watched. I mean you either use concentricity or eccentricity, depending upon what you wish. Both have been known for so

(Testimony of Samuel S. Mackeown.)

long that it goes [417] back to—well, the eccentricity certainly goes back to Watt's invention of the steam engine because that is what he used for his power. And you use concentricity if you have two parts moving around and you do not want them to have relative motion one to the other, to have either axis move. You take the crank shaft of your automobile, both ends of the crank shaft, of course, are not straight, but the two ends, the bearings must be coaxial, they much be aligned, they must be on-center. There you do not want relative motion because you will have bad wear. On the other hand, if you look at any locomotive you will find that the driving wheels and the gear mechanism is operated by eccentricities. So I think, in general, you decide to use coaxial pivots when you want things to move together harmoniously, and you use eccentric pivots when you want relative movement. That is a mechanical principle that is hundreds of years old.

Q. May I ask you, is there any necessity in the plaintiff's invention that coaxiality be maintained?

A. In this one it is absolutely essential, for a reason that has not been mentioned any place by any one in court here, that you have coaxiality. The thing won't work unless it is very coaxial. The reason for that is that in this case we have two tappets acting on two rocker bars. Now, in general, you cannot possibly have four arms of the two tappets contact the four bars of the two [418] rocker bars unless they are coaxial, and very ac-

(Testimony of Samuel S. Mackeown.)

curately coaxial. I am quite sure you will find in this device that plaintiff has supplied, which is Exhibit 7, that you won't get, as you move these around, contact of the four tappets, four arms of the tappets and the four bars of the two rockers, because it is not coaxial to a sufficient degree.

And I say this: That any mechanic building a device like this would know that he would have to do it, just as you know that if you have a table with four legs or a chair with four legs, if one of them is shorter than the other the four legs won't make contact, the thing will wobble, and you must have those legs all the same length or else you have to put some paper or something or other. So in this case that you asked me about, coaxiality is a matter of design that is imperative.

Q. Is not that also true of defendant's accused device?

A. No. The coaxiality is not imperative there. It may be desirable, but it is not imperative. This one can't possibly be operated unless you have exact coaxiality. This will be operative.

Mr. L. S. Lyon: You are getting too many "this's" for the record.

A. The device 10 in the patent in suit cannot be operative at all if it does not have exact coaxiality. The plaintiff's device is perfectly operative—— [419]

Q. Plaintiff's device or defendant's device?

(Testimony of Samuel S. Mackeown.)

A. Defendant's device is perfectly operative if it does not have that.

Q. Will you demonstrate that or point out your reasons for that?

A. I think it has been demonstrated by the tuner that Mr. Loehr testified about and which the court tried. This is Plaintiff's Exhibit No. 25. We have on this exhibit one of the tappets actually changed, —why the tappet was changed I don't know—and in addition to that a bar placed across the rocker so that the pivot of the tappet is now quite badly displaced from the pivot of the cam and the device is operative. Mr. Loehr testified that at the extreme ends of the scale there was a tendency for the rocker bar to move when the device was being set slightly if excess pressure was applied to the screw when making that adjustment; but I think there is no contention that the device is not operative if you do not have coaxiality, whereas, I say that the device of the patent in suit is not operative at all unless you do have coaxiality.

Q In connection with your statement as to the common-place character of this coaxiality, I would ask you to turn to the patent to Cunningham, No. 1,930,192; and first, I hand you a specimen, what I understand to be a specimen of the Cunningham device of this patent and ask [420] you if this is a specimen of the device shown in the drawings.

A. Yes; I have seen this device before and I have compared it quite carefully with the device

(Testimony of Samuel S. Mackeown.)

described and shown in the figures of the Cunningham patent, and I am satisfied that in all its important features it is the device described in that patent.

Mr. L. S. Lyon: I will ask that this device be received in evidence as Defendant's Exhibit K.

The Clerk: L.

Mr. L. S. Lyon: L.

Q. By reference to Exhibit L and the Cunningham patent will you explain the nature of that device to the court and illustrate to the court the embodiment therein of this principle of symmetry or coaxiality or concentricity?

A. May I refer just a little bit—I think it will be easier if I refer to the patent, what it is about.

Q. In the meantime, let the court hold the exhibit. I know he would like to see it.

A. This patent has to do with automatic method of measuring gas, primarily the amount of carbon dioxide in flue gas.

The Court: This says here "a power transmitting or registering device."

A. It is what we call a recording instrument your Honor; that is what it is. [421]

Q. One of these devices we see that leaves kind of a graph?

A. That is it exactly.

Q. And you can tell the pressure or the amount of whatever it happens to be?

A. And this happens to be for the flue gas for

(Testimony of Samuel S. Mackeown.)

a steam plant, such as in the Long Beach plant of the Edison Company. What happens can probably be shown, first, in Fig. 1. The can or vessel which is marked 38 is——

Q. That is in Figure?

A. Fig. 1, marked 38, inside here. You are looking at the right one, your Honor. This can marked 38—up a little further.

Q. Oh, yes.

A. —contains a sample of gas from which the carbon dioxide has been absorbed, and consequently the amount of gas left in that can depends upon how much carbon dioxide has been absorbed, and the height of that can over the liquid depends on that; as that is the thing that wants to be registered, the height of that can.

Now, if we turn to Figs. 5, 6 and 7, on the top of that can is the rod 40 which has on the top of it a little plate. The height of that plate is determined by the amount of gas in the can, so that wants to be automatically recorded. [422]

Now, the way the device operates is that by a motor and gears the push rod 45 at the extreme right comes up, moves the lever system consisting of the lever 51 and 50—it moves it up and it is pivoted around the pivot 49 so the left-hand portions move down. As the lever 51 moves down it releases arm 43 so that it falls and comes in contact with the plate on top of the rod 40 and that position is the one that is to be registered.

(Testimony of Samuel S. Mackeown.)

Q. That is this right here, is it not?

A. That is that right there, your Honor. Prior to the operation it is held in operative position by that sort of staple 59. Then the next operation is the lever 41 coming down and locking the wheel 55 so that it can no longer move. Prior to this time it has been free to move and its position has been determined by the position of arm 43. Then as the rod moves up still further that whole assembly, lever assembly, is pressed downwards until the pins on the wheel 55 come in contact with the rocker 57 and move the arms of that rocker until the two arms contact the two pins. This rotates the shaft 58, which is shown in some of the other drawings to be connected to a pen which makes the recording graph. [423] The important thing is that in Fig. 7, which shows the device when the pins are in contact with the rocker, the pivot of the rocker and the pivot of the wheel or the cam, both being the same, the two arms, the two pins forming the cam, will be coaxial.

Q. It might be a rocker, might it not?

A. It might be a rocker, yes. There is a reversibility. You can call either one the rocker or the cam. So in their final position they are coaxial just as you might say in the devices we have here. This is a shaft positioning member—a shaft positioning device, where the positioning element is now this plate 41 which is going to change every time because the amount of gas will be different, and this gives

(Testimony of Samuel S. Mackeown.)

you a nice continuous record of the amount of carbon dioxide in your flue gas.

Q. By Mr. L. S. Lyon: Will you now illustrate that action and point out that coaxiality on the model?

The Court: I can see it myself.

Mr. L. S. Lyon: Can you?

Q. By the Court: The only thing, Doctor, to this is attached the device that marks the chart?

A. Ink goes on there.

Q. Yes, ink. Of course, in our radio set-up for tuning, while this might be the arm or the pointer on the dial or hand on the di , we might call it, it would serve the same purpose, wouldn't it? [424]

A. It would serve the same purpose.

Q. But on the radio, in order to make that hand operative for any beneficial purpose, this has to come to a complete rest?

A. That is true.

Q. And this is variable and the pressure against the—what do you call this?

A. I call that a rocker.

Q. —against the rocker is affected by the pressure. In other words, if there is a certain amount of pressure, as you pointed out in the other, the four surfaces would not have contact; they would only contact when it reaches a certain pressure?

A. No, your Honor. We only have two surfaces here, two points of contact, not four as in the device shown in the patent in suit. The apparatus of

(Testimony of Samuel S. Mackeown.)

the patent in suit has four. It has two rockers and two tappets, each having four arms.

Q. This only has one tappet?

A. This has one tappet with two arms.

Q. Would this take the same place as the tappet here, this rocker, as you call it? It is nothing more than a tappet on this, is it not?

A. That is correct. If we remove one-half this device, it is a mere finger we have there. Take away one rocker and one tappet—— [425]

Q. I know, but on the rocker here you have two leaves, whatever you call them, set there that act the same as the two edges of this?

A. That is correct.

Q. So you have the two. When they come in contact here they have the two points come in contact with the two points on the rocker?

A. Yes. I might clear this up by saying that when I referred to the apparatus shown in the plaintiff's patent I was referring to the only apparatus shown there, which has—

Q. Two rockers?

A. Two rockers and two tappets, so that that is the only apparatus shown in there.

Q. I took from that, that you meant there was one surface here came in contact with one surface here and one surface here came—

A. There are two contacts.

Q. Two contacts, yes; that is true, there are two contacts.

(Testimony of Samuel S. Mackeown.)

A. And that does not require coaxiality to get that. You can have that all right. Two points will hit whether their axes are coaxial or not. But to have the four contacts made at one time here requires that this be coaxial with the axis of the rocker, that the tappets be coaxial. This is exactly the same problem as you have in a radio; and if the shaft 58 were connected to the condenser of a radio it [426] would tune the radio every time it came down. It would tune the radio in this case to a station, depending upon the amount of carbon dioxide in your flue gas.

The Court: We get different kinds of gas over the radio.

Q. By Mr. L. S. Lyon: Will you compare the structure provided by—

The Court: Gentlemen, I notice that we are past our afternoon time. We will take a 5-minute recess at this time.

(Short recess.)

Q. By Mr. L. S. Lyon: Will you now compare the device shown in the patent in suit, as exemplified also by the model Exhibit—

The Court: That is the wrong one. This is Exhibit 7.

Q. By Mr. L. S. Lyon: Exhibit 7—with the accused defendant's tuner, as exemplified in exhibit —that can't be it because it hasn't a number—in Exhibit 10, and point out any significant differences?

(Testimony of Samuel S. Mackeown.)

A. Probably the most apparent difference is that the device, Plaintiff's Exhibit 7, is for the simultaneous tuning of a radio and television set. It, therefore, has two rockers and two cams that I spoke of. This brings up a lot of differences which are quite important, which I will refer to later. The apparatus described in the patent in suit is a lever-operated device, in which the pivot of the cam is located by the distance from the pivot of the lever shown as Q in the patent drawing and the distance to the [427] pivot of the cam or tappet which is marked 60 in the patent drawing. In addition, this device is a lever device in which the manually-operated end is at a greater distance from the fulcrum than is the tappet. This means that the amount that the operating end must be moved is much greater than the amount or the distance that the tappets are moved. So that to get a displacement of say an inch or half an inch of the tappets requires a greater motion of the manual end. There is, of course, a compensating advantage, if you want to call it an advantage, in that the amount of force required at the operating end is less in this case than if it were, for instance, a push button. You get the mechanical advantage which is common with the lever system. In a push button system, of course, you get no mechanical advantage. You have to apply the same force that is required to actuate your mechanism but, of course, the distance that you move the mechanism is the same distance that you

(Testimony of Samuel S. Mackeown.)

have to move the operating end. This results in a bulkier apparatus, one in which the throw is greater, which takes more room.

Q. By the Court: Which apparatus are you speaking of?

A. I am speaking of the apparatus of the patent. It takes up more room in the radio sets and requires a greater throw and relatively long slots on the face of that apparatus. In addition, there are some very important differences. The first difference I would like to point out is [428] the difference in the locking device. As has been said by a number of witnesses, and I agree with what has been said, the accuracy of tuning required in a radio set for the broadcast range is very great. The angle through which the rockers turn in any of the devices here is small. Consequently, the accuracy required in positioning these rockers is very great. I think Mr. Loehr said a hairbreadth. That is just about right because it calculates it to be a matter of a few thousandths of an inch and that is about the diameter of a pretty fine hair. So that it is necessary that these rockers be positioned extremely accurately. To do that we must have an adequate locking device because in positioning these rockers the tappet fits the rocker with its attendant mechanism, that is, the condenser and the indicating device, and moves that. That gives a blow to the rocker and, conversely, the rocker gives a blow to

(Testimony of Samuel S. Mackeown.)

the tappet, which will tend to displace that tappet unless you have good rocker devices. I am speaking now of what can be shown in the chart Plaintiff's Exhibit No. 24 in either Fig. C-2 or Fig. L-2. In both of those cases you see one arm of the tappet comes and hits one arm of the rocker. It gives a blow to the rocker and, on the other hand, the rocker gives a blow to the tappet. If the locking device is not good, that will tend to displace that tappet so that on the next operation you won't accurately tune. If we look at the locking device in the apparatus of the patent in suit [429] and try it on the plaintiff's model Exhibit 7 and tighten the locking device there, it is very easy to move the tappets by your fingers. There is not a locking device on there which is sufficient to prevent easy movement by your fingers. So that, when this is used for repeatedly tuning a set in, there must be a movement of the tappet by the contact of the rocker bar on the tappet which will tend to change the position of that tappet from its adjusted position so that next time it won't tune accurately. If you look at the locking device used in the defendant's apparatus Exhibit 10, you will find that the locking is quite adequate. I might go back to the apparatus of the patent in suit and explain why this locking is poor. The locking is poor for several reasons. As shown in the patent in Fig. 3, the locking consists of the bearing of two legs 68 on shoul-

(Testimony of Samuel S. Mackeown.)

ders carried by [redacted] tappet bearings. As shown in Fig. 3, those legs are straight across and they do not have any arcuate bearing on the tappet members. In the device Exhibit 7 this departs from the apparatus shown in the patent in that those legs 68 are made to have an extended bearing over the shoulders of the tappet, but even in this apparatus the locking is not sufficent. In the apparatus shown in the patent this line of contact gives a very poor lock. In addition, the distance from the pin at which that locking is applied is extremely small. That must be so so that the shoulders shall not interfere with the [430] tappet. Then the locking is applied from a thumb screw through the two levers which are fairly resilient, resilient at least for a locking device, so that no large amount of pressure can be applied. Those peculiarities of the apparatus shown in the patent are the reason why it is impossible to get a good locking device. In the defendant's device shown in Plaintiff's Exhibit 10 you have got different conditions. I have here one of the push rods with the cam and the locking device separated from the apparatus. That was taken from an apparatus similar to Plaintiff's Exhibit No. 10, from which it is a little easier to show what I am talking about.

Mr. L. S. Lyon: We will offer this individual push rod assembly from the accused structure as Defendant's Exhibit M.

(Testimony of Samuel S. Mackeown.)

A. In this case the locking is accomplished by means of a metal piece wedging the cam or tappet against the push rod. This wedging is accomplished through means of a screw and that locking occurs over an extended area of the tappet and at a relatively great distance from the center. So that there is a very firm and adequate lock. I have tried that lock and, if it is tightened up with a screw-driver in a normal manner, that tappet is so firmly secured in place that with a pair of pliers it is not possible to move the tappet. I think you probably would bend either the tappet or the push rod before you would release the tappet from its lock. That [431] difference is of a great deal of importance, because of the necessity of having this very accurate location and relocation of the rocker arm by the tappet. It is not satisfactory to have it operate once and then require readjustment. In addition to that, the apparatus of the patent in suit, since it requires the location of two rocker bars by two tappets, requires a degree of coaxiality that is very difficult to obtain. And actually in the model submitted by plaintiff, marked Exhibit No. 7, you will find in just the position it happens to be at present that there is a very large amount of play in the outer rocker. What has happened is that the position of the lever is determined by the contact of the inner rocker on the two arms of the inner tappet and then one of the outer rocker arms is sufficient to determine the location of the outer rocker bar. And you can see

(Testimony of Samuel S. Mackeown.)

right here that there is an amount of play which is so great that it would be certainly 10 or 20 times the tolerance that could be allowed in tuning a radio set. I have played with a model similar to this and find that it is quite impossible, with ordinary skill, even going to machined parts, to build the assembly so that there will be not an excessive amount of play in the rockers when they are rotated. Those defects from a practical standpoint in the use of a tuning device are something that could not be tolerated. There are, of course, a great many more differences that could be pointed out but I think those [432] are the most important ones, Mr. Lyon.

Q. By the Court: Doctor, let me ask a question about this bar. What is there about it that makes that lock?

A. It is the wedging of this metal piece against the tappet, pressing the tappet hard against the plunger.

Q. It works simply as a wedge there?

A. Simply as a wedge. That has a very nice feature, your Honor, that I haven't pointed out. That lock puts no strain whatsoever on the pivot. it is a wedging that——

Q. That binds it?

A. That binds it. But in the tightening of it it puts no strain at all upon the pivot of the tappet.

The Court: That has never been marked.

A. The pivot is pretty light there.

Q. By Mr. L. S. Lyon: Upon what basis in the

(Testimony of Samuel S. Mackeown.)

design is the so-called symmetry or coaxiality accomplished in the plaintiff's patent device as compared with the defendant's accused device?

A. Will you read that, please?

(Question read by reporter.)

A. It is the design of the apparatus—the means are quite different but in both cases you get the result that the axis of the cam is located at the axis of the rocker bar. The means of getting them are quite different because one is a lever system and the other is a push rod system.

Q. That is what I would like you to go into and contrast [433] or compare, so far as that symmetry is concerned, the lever system of the patent in suit and the push button system of the defendant's accused device.

A. There are two things that are necessary in the apparatus of the patent in suit to obtain this coaxiality. One is that the distance between the pin 60 and the pivot Q shall be equal to the distance between the pivot Q and the axis of the shafts 25 and S. Then the other is the requirement that the tappets be so shaped that, when the lever is pushed home, the axis of the tappets will line in what I call a vertical direction with the axis of the rocker bars. It should be noted that in the apparatus of the patent in suit the rocker bars have a very considerable thickness. This is practically necessary because they have a small width and to get the adequate strength they must have considerable

(Testimony of Samuel S. Mackeown.)

thickness. And they are pivoted at their centers. This means, then, that the axis of the tappets had to be much lower than the contact points of the tappets. In this respect it differs quite a bit from the device of the defendant where the axis of the tappet is very closely aligned with the contact points of the tappet. That is following the same construction as Schaefer. That has some advantages in having the contact points of the tappet on the same line as the axis. Then, in the defendant's apparatus, to secure this coaxiality, since you have a push rod motion, it is necessary to locate the position of the [434] axis of the tappet in both a horizontal and vertical direction so that, when the push button is pushed home, it will line up with the axis of the rocker bar. This is accomplished by having two bearings, slide bearings, for the push rod, one above and one below the rocker bar, and these bearings, in combination with the adjusting washer at the top and the positioning bar at the bottom, locate the center of the tappet so that it will lie in a vertical line which will pass through the axis of the tappet. Then, to locate the horizontal direction, the tappet, or the axis of the tappet, is placed in such a position that you will get coaxiality in the vertical direction. In the design of the defendant's apparatus the axis of the rocker bar is very, very close to the top surface. It is pretty nearly at the top surface. I believe it is about a fiftieth of an inch below the top surface. And for this reason you can put the

(Testimony of Samuel S. Mackeown.)

axis of the tappet and the contact points on nearly the same straight line with advantage. I think that, again, points out the main differences of obtaining coaxiality in the two cases.

Q. By the Court: Are those all of the differences you find?

A. There are a lot more but those are the more important ones. I don't know how much detail Mr. Lyon wants on these.

Q. By Mr. L. S. Lyon: If you have in mind any more of any real significance, why, point them out.

[435]

A. There are no others that are of real significance to me.

Mr. L. S. Lyon: We have another one of the defendant's devices here. I am not sure whether it is accused or not.

The Court: I have forgotten who Exhibit 19 belongs to.

Mr. L. S. Lyon: What is the number of this device or this later model?

The Court: Mr. Flam, can you tell me which one Exhibit 19 belongs to or what it is?

Mr. Flam: That is one of the series I asked to mark for identification. That is the Radio Condenser exhibit.

The Court: Oh, yes; I remember now.

Q. By Mr. L. S. Lyon: I call your attention to Exhibit F and will ask you to state whether or not it embodies symmetry or coaxiality and, if so,

(Testimony of Samuel S. Mackeown.)

I will ask you to point out and compare the means by which such symmetry or coaxiality is attained in that device as compared with how the same is obtained in the Schaefer patent and Zenith lever tuner of the type of Exhibit 3 and Defendant's Exhibit A.

A. This device Defendant's Exhibit F does not have a rotatable tappet. In place of a rotatable tappet, it has two arms which can be moved by means of a single rotating rod so that, as one arm moves up, the other moves down; and their motion is equal but opposite. It is what Mr. Kilgour described as a skate key operation because in the kind of skates that clamp on your shoes one key operates a [436] right-hand screw and also a left-hand screw so that the clamps of the skate bind on the shoe with one turning of the key.

Q. You have just produced a single unit or tappet assembly of the kind that is employed in Defendant's Exhibit F, have you not?

A. That is true.

Mr. L. S. Lyon: I would like to have that in evidence, your Honor.

The Court: This is not an accused device, is it?

Mr. L. S. Lyon: That is a defendant's device, your Honor. Mr. Leishman said he hadn't made up his mind whether he was accusing it or not.

The Court: I know but this suit wouldn't settle that.

Mr. L. S. Lyon: We would like to have it here for the purpose of comparison on this question of

(Testimony of Samuel S. Mackeown.)

the principles involved here and a comparison of the embodiments of those principles. I would like to have that particular skate key unit, so that we can identify it later, received in evidence as Defendant's Exhibit N.

A. While this device Defendant's Exhibit F does not have a tappet which physically is rotatable about an axis, nevertheless, the tappet or the arms make contact with the rocker bar when the push button is pushed down, and that point of contact describes a circle and the center of that circle coincides with the center of the rocker bar. This is [437] what I think Mr. Leishman described as a phantom center or an imaginary center, and I agree with Mr. Leishman that this has coaxiality since the centers of these two circles, one of which may not be quite real—it is the point of contact—are coaxial, that is, the centers of these two circles are coaxial.

Q. By the Court: Doctor, isn't the mechanism you have just shown like the Zenith in reverse?

A. It is exactly the same, your Honor.

Q. But in this what we have called the elevators move up like the tappets do in the one you have just explained, while in this the tappet is one piece?

A. That is correct.

Q. And in the one you have just been explaining the tappets are in two pieces but they move together like the elevators do in the Zenith?

A. Yes.

Q. That is the point, is it not?

(Testimony of Samuel S. Mackeown.)

A. That is the point. And, if you think of the tappets and elevators—the relative motion is the same. You have a translation of motion in one.

Q. There is no difference in the elevators in this and in the rocker, is there, so far as the movement is concerned?

A. No difference.

Q. And they are for the same purpose, that is, they accomplish the same purpose? [438]

A. They accomplish the same purpose except, of course, one is on the rocker and the other on the tappet.

Q. As one edge moves, the other moves correspondingly? A. Exactly.

Q. As far as the Zenith is concerned, we will take the lower portions of each one of the elevators and, if those were fastened together, they would move just the same as they are now, would they not?

A. If they were fastened together and pivoted there?

Q. And pivoted. You would get the same movement?

A. You would get a rotation rather than a translation movement.

Q. But the edges would move together so that you would get the same result?

A. That is exactly right.

Q. By Mr. L. S. Lyon: Doctor, you heard Mr. Leishman's testimony on cross examination relative to the fact that symmetry was not disturbed by

(Testimony of Samuel S. Mackeown.)

using this key arrangement in place of a pivoted tappet and his attempt to assert that symmetry was in some way disturbed if the rocker were separated into two bars such as are in the Zenith device. Would you care to comment on that or let us have your views on that?

A. I don't think that Mr. Leishman said that there was not symmetry in the Schaefer device or this coaxial feature, although I may be wrong. It certainly is present [439] in that device in exactly the same way that it is in this defendant's model Exhibit F. And, since in both of these—if we think of the contact between the bars of either the rocker plate or the elevator and the tappet, it doesn't make any difference which one has the up and down movement or which one has the rotary movement. That point of contact, and it is really the only point we are interested in, describes a circle and that circle is a circle whose center is the center of the cam in the one case or the center of the rocker bar in the other.

Q. Then, is it at all necessary, in order to accomplish or produce this symmetry or coaxiality, that the tappet engage an operating member which is in the form of a pivoted rocker bar?

A. No; I think not. I think I will agree with Mr. Leishman in that, that both of the things do not necessarily have to be physically movable about a pivot. One of them must be,

(Testimony of Samuel S. Mackeown.)

Q. And does it make any difference which one of the two it is?

A. No; it would make no difference which one it is.

Q. Will you turn, in Exhibit J, to the patent to Woodbridge, the first patent in this exhibit, and explain this device briefly to the court and point out to the court by reference to the drawings the shaft-controlling or governing mechanism employing a tappet and a pivoted rocker [440] bar?

A. This patent to Woodbridge——

Q. Which pivoted rocker bar, I might add, is an apertured rocker bar or a rocker bar with a hole in it.

A. No. 585,996 has to do with a cash register and recorder. In a cash register it is necessary to move a shaft or some device an amount corresponding to the amount of money that has been put in the cash register or taken out, and that is done by pressing the keys.

Q. By the Court: Are you referring to the Figure on the first page?

A. I think the only Figure we need to worry about, your Honor, is Fig. 10 on the last page of the drawings.

Q. By Mr. L. S. Lyon: Or Figure 8?

A. Figure 8, too. Figures 8 and 10, I think, will take care of everything. In the cash register described in this patent the shaft which is to be rotated is the shaft marked D-3, probably best seen

(Testimony of Samuel S. Mackeown.)

in Fig 10, and to do that a tappet marked C-3 is urged upward and rotates the shaft D-3 by contacting one side of the rocker bar, such as one of the bars marked D-2, and moving it until the tappet coincides with the other bar marked D-2, at which the motion is stopped. This is the common application of a tappet and rocker bar to obtain angular motion of a predetermined amount or to position that bar. The rocker bar itself consists of three shafts, the central shaft D-3 [441] and the two bars D-2, with end plates. This can best be seen in Fig. 8, where the whole rocker bar assembly is shown at the lower part of that drawing between the two uprights. This patent has to do with a lot of other things besides the rotation of that bar.

Q. That is the only part we are interested in here, isn't it?

A. That is the only part we are interested in here and I think most of that description can be obtained by reading on page 2, say, starting at line 16. I think that is all that is necessary to read in that patent to understand it:

Q. And how far from there on?

A. To about line 29.

Q. Will you turn over to the patent to Miller in Exhibit J, No. 2,014,358, and point out to the court there the shaft positioning or tuning apparatus comprising a tappet operating on a rocker bar and in which one of those members penetrates into the other member?

(Testimony of Samuel S. Mackeown.)

A. This patent to Miller is another patent on a cash register. Its number is 2,014,358. The only part we are concerned with is contained on page 2, starting at line 14, under the subheading "Actuating Means", through to line 13, column 1, on page 3; and it is shown on Figs. 9, 10, 11 and 12 as well as some of the other Figures. In this case we have a shaft 5—— [442]

Q. By the Court: Which Figure are you looking at?

A. Figure 9, for instance. That is on the last page, your Honor. We have a shaft 5 which is to be rotated by the tappet or cam which is marked 4.

Q. Is this top one Figure 8? It doesn't show here. A. Figure 9 is this Figure here.

Q. Oh, I see.

A. The shaft 5 is to be rotated by the arm 4. That arm 4 is actuated by the button on the front of the cash register, shown in Fig. 8. That shaft is movable by the tappet 4 by having this tappet actuate bars 7 and 8 of the rocker. As the key is pushed down, the tappet rotates about the pivot 3 and the shaft is turned and the amount of that rotation depends on the shape of the tappet. Different shaped tappets are used for different buttons. The button marked 1 is a different shape from the button marked 2 and so forth. In this combination of tappet and rocker the rocker is made with apertures in it and during the operation, and particularly when the key is depressed, part of the tappet pro-

(Testimony of Samuel S. Mackeown.)

trudes into this aperture in the rocker. This is shown in Fig. 9 and also in Fig. 10 and in some of the earlier Figures, such as Fig. 13. Those rods 7 and 8 which forms the arms of the rocker are best seen in relation to the buttons for actuating the cash register on Fig. 2. They extend throughout the width of the cash register so that the same rocker bar can be [443] actuated by any one of the buttons operating through its appropriate tappet.

Mr. L. S. Lyon: Will you turn now to the patent to Flaherty in Exhibit J, patent No. 1,948,373, and, if you find it therein, please point out to the court each of the elements corresponding to the elements of claim 7 of the reissue patent here in suit? Do you have a copy of that patent?

Mr. Flam: If your Honor please, I would like to object to that. It is in the nature of an interpretation of a patent claim by an expert. I don't know how your Honor feels about that. Interpretation of a claim, of course, is within the exclusive province of the court.

Mr. L. S. Lyon: I don't feel that I have asked him to interpret a claim. I have just asked him to point out each of the elements corresponding to these elements in the claim. I have followed this method of examination many, many times. I am not asking the witness to interpret the claim. I am just asking him to take element for element of claim 7 and show us what he can find that corresponds thereto in this particular patent.

(Testimony of Samuel S. Mackeown.)

The Court: The objection is overruled.

A. I would like, first, to give a little explanation of how it works, if I may.

Mr. L. S. Lyon: Do you mean the Flaherty device? A. The Flaherty device. [444]

Q. Yes; you may make such explanation as will be necessary to understand the parts that you are going to refer to.

A. The Flaherty device, like the devices with which we are concerned here, is a device for automatically tuning a radio.

Q. This, is by the way, is the tuner that was used for some considerable time on the General Electric sets, was it not?

A. I don't know how extensively it was used, Mr. Lyon. Its operation can be understood best by considering Figs. 2 and 3. Let's consider Fig. 3 first. In Fig. 3 the shaft 12 connected to the heart-shaped cam is the condenser shaft which has to be positioned. Attached to that shaft is this heart-shaped cam and, in addition, there is a rocker. This rocker has two arms and they are the part of that rocker attached to the shaft——

Q. By the Court: What are the numbers of the arms of the rocker?

A. The arms of the rocker are marked 23. Both arms are marked 23. You will see the parts of the rocker in Fig. 4. The only part we are concerned with is the final tuning of the radio, the tuning dur-

(Testimony of Samuel S. Mackeown.)

ing the last operation. I think, if I might just read a paragraph on page 3, starting at line 62, if the court will look at Fig. 3, you will understand, while I read, how it operates. "In order [445] to tune the receiver 10, by a single stroke of a lever, to a given frequency for which the preselector tuning arrangement has been previously set as above described, the operating lever at 16, Fig. 3——"

Q. Where is 16?

A. That is the lever shown really in Fig. 1. It is the outside lever. It is marked 35 and 39 but on Fig. 1 it is marked 16.

Q. I see.

A. "——corresponding to this given frequency is depressed and the roller 18——" which is the roller on the back part of the tappet——[446] "the roller 18 coming in contact with the heart-shaped cam 15 rotates the tuning element shaft 12 to a position such that the cam is near its final setting." There is in this tuner which is Defendant's Exhibit B a device which operates on the principle of a roller coming in contact with a heart-shaped cam so that, when it is pushed down, it rotates that cam until the roller falls into the depression in the heart. That is what he is speaking about so far. He says this roller 18 contacting the cam, the heart-shaped cam. This kind of a device does not locate very accurately. So Flaherty suggests using this heart-shaped cam for rough setting and then, for the final setting, he describes how he uses the

(Testimony of Samuel S. Mackeown.)

rocker bar. I will continue reading now in line 71. "The straightedge or contact portion 31 of the cam then strikes the contact faces or anvil blocks 23." That calls for this flat portion 31 contacting the blocks 23, the anvil blocks 23. If we look now at Fig. 2, we will find the cam rotated to its final position. It may be a little easier now to look at Fig. 2. "The straightedge or contact portion 31 of the cam then strikes the contact faces or anvil blocks 23 of the locating member 20 and rotates the cam through a relatively small arc positively and accurately to its exact centered position shown in Fig. 2. In order to insure that the final few degrees of cam rotation and the locking of the cam into exact centered position shall be accomplished by the coaction of the cam locating member 20 [447] and lever member 31 alone without interference from possible contact of roller 18 wih the cam surfaces in the region of the cam notch, the cam surface is relieved or cut away slightly at the notch, or otherwise formed to avoid contact between the roller and the cam in this region." In other words, Flaherty has for his final setting a rocker mounted upon a shaft with two arms and a tappet locking that rocker by hitting one arm of the rocker and moving it until the other arm hits the other side of the tappet and, in addition he provides an opening in the rocker for the wheel 18, which is part of the tappet, to protrude into this opening and not interfere with the accurate positioning which is obtained by the plain sur-

(Testimony of Samuel S. Mackeown.)

face 31 contacting the two arms 23. In claim 7 it says, "In combination with the tuning mecanism of a radio apparatus——". Flaherty shows the tuning mechanism of a radio apparatus. "——of a rotatable rocker mounted upon a shaft operatively connected with said mechanism." That rocker is the cam 15 and the anvil blocks 23 mounted on it; that is, the whole rocker assembly, which is a rotatable rocker operatively connected with the shaft. Then the claim calls for, "said rocker having two arms each extending on a different side of said shaft." This rocker has the two arms, which are marked 23, which extend on different sides of the condenser shaft. Then it calls for "means adjustably movable about a pivot." I will stop there. This has means adjustably movable about [448] a pivot. That means is the lever 16 and the mechanism attached to it. Its movement is adjustable because there is provided a set screw 40 which is used to change the amount of motion which that lever has. That set screw 40 is spoken of as an adjustable stop and is described at line 114 on page 3.

Q. By the Court: Of what?

A. Of the patent.

Q. Of whose patent?

A. Flaherty's patent.

Q. Line what?

A. Line 114 of page 3. Possibly we should start at line 110.

Q. Go ahead.

(Testimony of Samuel S. Mackeown.)

A. So that we have here means adjustably movable about a pivot, the pivot, of course, being the pivot 17, and then "and acting upon bodily movement in one direction to slidably engage either arm of said rocker and push it in one direction to an angular position at which the movement of said rocker is arrested by the collision of said means and the oppositely moving other arm of said rocker."

Q. I can't find where you are reading.

A. I am reading from claim 7, your Honor. I had gotten down to the claim and shown that this Flaherty patent has means adjustably movable about a pivot. Then the next phrase in that claim calls for, "and acting upon bodily [449] movement in one direction to slidably engage either arm of said rocker and push it in one direction to an angular position at which the movement of said rocker is arrested by the collision of said means and the oppositely moving other arm of said rocker." [450]

Q. By the Court: Will you go over that again and show me that in the Flaherty claim?

A. You understand, it means movably adjustable about a pivot.

Q. And tell me the page and line that you are strating to read from the Flaherty.

Q. By Mr. L. S. Lyon: Explain to the court that you are taking the different parts of claim 7 of the patent in suit, of Mr. Leishman's patent.

The Court: Yes.

(Testimony of Samuel S. Mackeown.)

Q. By Mr. L. S. Lyon: And pointing out on the drawing of the Flaherty device by the numbers there the parts that correspond.

The Court: I thought he was also going over some language in the Flaherty patent.

Mr. L. S. Lyon: He did do that.

A. I did do that at one point. That was just to show the adjustable movement of the lever of the set-screw.

The Court: I see. It is pretty hard for me.

The Witness: I am sorry, your Honor. I will be a little more careful.

The Court: It is out of my realm entirely.

A. What that language calls for is an adjustable movement——

The Court: I get your point.

A. ——about a pivot. [451]

The Court: I see now. Go ahead.

A. And the surfaces 31 do locate the rocker and particularly the two arms of the rocker 23 in exactly the manner described in that part of the claim by pushing one arm in direction until the motion is stopped by collision in the opposite direction. Then the claim calls for "a spring for holding said means in a normally inoperative position." This spring is the spring 33 in the Flaherty patent.

Then it calls for "said rocker constructed so as to admit at least a portion of said means between said arms."

(Testimony of Samuel S. Mackeown.)

Well, the drawings show and the specifications describe how the rocker is constructed so that the roller 18 can extend into the space between the two arms of the rocker. I think all of the elements called for in that claim can be found in this apparatus shown in the Flaherty patent.

Q. By Mr. L. S. Lyon: Referring back to the drawing of the reissue patent in suit you heard, did you not, the question I asked of Mr. Leishman as to whether either of the rockers, or the rocker 48 shown in Mr. Leishman's drawing, is of such proportions as to receive more than one of the lever and tappet units? A. Yes.

Q. That is, so that there would be more than one of those units acting on a common rocker plate?

A. I heard that question, Mr. Lyon. [452]

Q. Are you prepared to answer that question?

A. Yes.

Q. Will you give your answer and point out to the court on what it is based?

A. I have measured the length of the pin 60 shown at Fig. 3 of the Leishman patent; I have also measured the distance between the extremity of the shaft S and the shaft 40 shown in Fig. 1. There is not sufficient room on the drawings between the end of the shaft S and the end of the shaft 49 to admit two of the pin assemblies shown in Fig. 3. For actual use, of course, there must be

(Testimony of Samuel S. Mackeown.)

not only room to admit them but some clearance so that they can operate without interfering between each other and between the ends of the shaft.

Q. That is, if you were going to use one rocker with more than one of such assemblies?

A. You must not only have room to admit it but room for clearance.

Q. Do you find any disclosure or teaching in the specification of this patent in suit that more than one such assembly is to be operated with a single rocker?

A. No. I find only one short sentence any place suggesting that there is more than one lever assembly.

Q. And in connection with the suggestion at that point in the patent of using more than one lever assembly is there any teaching as to whether the plurality of lever assemblies [453] is to be used with a single or a plurality of rockers?

A. No; there is no such teaching.

Q. In the device where you have a combined television and radio receiver do you conceive of any reason why there could not be more than one rocker assembly in the device?

A. Yes. That question depends on where the Federal Communications Commission—how many channels they allot to television and where they place them. As a matter of fact, the Federal Communications Commission have allotted channels to television with the sound channels adjacent to the

(Testimony of Samuel S. Mackeown.)

speech channels, so that only one shaft must be turned to tune in both your sound and your television image. However, the television channels were located at very scattered places throughout the spectrum, and unless they were in practically contiguous channels it would be very difficult to operate any device like this for using both a television and radio—for tuning in both television and the accompanying speech at the same time.

The Court: Gentlemen, I think that this is a good time to interrupt. We are not going to finish this afternoon.

Before we adjourn I want to say that after we have completed the taking of evidence I am going to ask for oral argument on some of the points involved in this case, and it depends upon that oral argument as to whether I will ask for any written briefs.

I want to say frankly that I have been very much impressed [454] with the claim of intervening rights in this case; and the plaintiff has set forth on page 4 of his trial brief under heading "D" and made the following statement:

> "Under any circumstances, even if defendant may be entitled to intervening rights, which is denied, the effect is merely to free the defendant from an accounting up to the time when the reissued patent is issued. After the reissue patent is granted, however, the defendant is liable for accounting. In this connection see

(Testimony of Samuel S. Mackeown.)

Abercrombie and Fitch v. Baldwin, 245 U. S. 198."

Reading that case in connection with Sontag Stores Co. v. Nut Co., found in 310 U. S., commencing at page 282, I find this same case cited. And I am not so sure but what it may be one of the vital points in this case, the law on that point; and I would like to have you gentlemen ready to argue that point of law after the completion of the testimony.

I also wish to hear from you gentlemen on the question of qualifying disclaimers. I think the law probably is fairly clear, but I am interested in the contention of the defendant to the effect that the qualifying disclaimers have added something to claims 8, 9 and 10 that did not exist prior to the filing of the disclaimers. And I am interested in having counsel discuss those particular features because I am satisfied that if the qualifying disclaimers have attempted to add something to those claims [455] that did not exist before, that the claims themselves are a nullity. I am satisfied that you cannot get the benefit of a reissued patent by filing a qualified disclaimer.

So those are at least two points that I have in mind that I wish to have discussed. I might say that the court desires to hear argument from counsel on the question of whether the Leishman patent, or the patent involved in litigation known as the

(Testimony of Samuel S. Mackeown.)

reissue, is entitled to a broad or narrow interpretation in accordance with the landmark case of Justice Taft. That is the Eibel Paper Company case. I have forgotten the exact volume, but I know you men who are accustomed to handling patent cases know it better than you do your New Testament.

I am making these comments tonight because we are nearing the end of taking of the testimony; so I am passing on to you gentlemen, as I try to do in the cases that I have tried, the problems that are disturbing the court in considering your case.

Mr. L. S. Lyon: Would you like us to be prepared on this tomorrow if we close the evidence in the morning?

The Court: Yes, I expect as soon as the evidence is closed to have you gentlemen prepared to discuss these various points.

Mr. L. S. Lyon: This is sort of like a homework assignment.

The Court: It is very apparent that both sides have [456] been doing considerable homework in this case and a little more will not hurt you, and besides, it might remind you of the days that have gone by.

(Adjournment until 10 o'clock a. m., Friday, October 18, 1940.) [457]

Los Angeles, California,
Friday, October 18, 1940, 10 A. M.

(Appearances as last noted.)

The Court: You may proceed, gentlemen.

SAMUEL S. MACKEOWN
recalled

Mr. L. S. Lyon: You may cross examine, Mr. Flam.

Cross Examination

Q. By Mr. Flam: You have testified regarding the disclosure of the reissue patent in suit, haven't you? A. Yes; a little bit.

Q. You have read the patent?

A. Yes; I have read the patent.

Q. Will you please state what description you found in the patent relating to the element F, the lever?

A. Well, starting on page 1, at line 34, the paragraph there talks about the lever F. Do you want me to read it?

Q. No. Is that the only place where the lever is mentioned?

A. No. It is also mentioned on page 2, or at least the lever assembly is mentioned there.

Q. What line?

A. The paragraph beginning at line 34. And then it speaks about a plurality of lever assemblies in the paragraph starting at line 37 in column 1.

Q. Do you find any statement in the patent

(Testimony of Samuel S. Mackeown.)

specifica- [458] tion that that lever or lever assembly is adjustable?

A. The lever or lever assembly?

Q. Yes.

A. It is adjustable; yes. The lever assembly certainly is.

Q. You didn't get my question. I want to know whether in the patent specification it is stated that way. A. Yes.

Q. Where?

A. On page 1, starting in line 46, it speaks about the lever assembly consisting of the two levers and a set screw 72 which is part of the lever assembly, and that being adjustable for locking the tappets on the lever.

Q. Where does it say "adjustable"?

A. It says, in line 48, page 1, "This hole is tapped to admit the set screw 71 which passes through hole 70 in the upper lever. The set screw has a knurled top 72. When this set screw is tightened, the legs 68 of lever 66 clamp down on hubs 63 and 64, thus keeping the tappets from turning." That is part of the lever assembly.

Q. That is the best you can find about any statement of adjustability as far as the lever assembly is concerned, is it? A. Yes; I think so.

Q. The word "adjustable" or "adjustability" or any derivation of that word does not appear, however, in [459] connection with the description of the lever or lever assembly, is that right?

(Testimony of Samuel S. Mackeown.)

A. That word "adjustable" I don't find, in glancing hastily over it, referring specifically to the lever assembly.

Q. I call your attention—or your attention has already been called to it. I remind you of the tappet 61. I think your attention has been directed to it before. Will you point out where that tappet is described?

A. I think it is first described in the sentence starting in line 36 of page 1 of the patent. Do you want me to read the sentence?

Q. No. Do you understand from the disclosure that the tappet is adjusted about its axis?

A. Yes; I understand from the disclosure that the tappet is adjustable about its axis, that is, can be adjustable about its axis.

Q. And clamped in adjusted position, is that right?

A. And clamped in adjusted position; yes.

Q. In connection with the Flaherty patent No. 1,948,373, included as one of the patents in defendant's Exhibit J, I believe, what is the purpose of the set screw 40 or screw 40 in Fig. 3?

A. That is to limit or to adjust the motion of the lever 16.

Q. Isn't it true that that set screw or screw 40 is [460] utilized merely for the purpose of insuring that the inactive positions of all of the levers will line up in front of the radio set, that is, to bring the recesses defined by shoulders 39 shown in Fig.

(Testimony of Samuel S. Mackeown.)

3 on a common line on the panel or front of the set, isn't that right?

A. I think that is the function of it. Its function is set forth on page 3 at line 110.

Q. In connection with this Zenith device Plaintiff's Exhibit No. 3 and Defendant's Exhibit A, this shaft projecting from the side of the mechanism is intended to be directly coupled to the condenser, is that right? A. That is correct.

Q. Is that the way it is shown in the Schaefer patent?

A. Yes; that is the way it is shown in the Schaefer patent in Fig. 1.

Q. In other words, this entire mechanism would have to be placed alongside of the tuning device in order to make it perform its function?

A. It is the tuning device.

Q. By tuning device I mean the condenser or variable inductance or whatever form it would take.

A. Yes. That would have to be placed adjacent to the condenser or, of course, you could use a flexible shaft but it would be sensible to place it next to the condenser.

Q. If you wanted to put the Schaefer device in front of the condenser which forms the tuning element, for example, [461] in Plaintiff's Exhibit No. 22, what would you have to do with the Schaefer device?

A. You would have to put it probably to the right of this device and adjust its height probably

(Testimony of Samuel S. Mackeown.)

so that the shaft you spoke about of the Schaefer device lined up with the shaft of the condenser.

Q. It would make the set much longer than it is at present? A. Oh, yes.

Q. By the length or width of this Schaefer mechanism?

A. Yes. And it would increase the volume of the set, certainly, by 50 per cent.

Q. If you wanted to avoid that, I believe you could use gears, pivot gears, or pulleys to couple the shaft of the Zenith device with the shaft of the condenser, is that right?

A. That would not avoid any increase in space or volume. Direct connection would certainly take up less space than coupling it through gears and the motion of the shaft designed to connect to the condenser in the Schaefer device is such that you would get the exact right amount of motion, 180 degrees, to operate the ordinary radio condenser. I don't see how you would save any space by using gears when you can couple it directly.

Q. I don't mean saving any space but, if you did want to have the push buttons appear or levers appear on the front [462] of the set, and back of which push button mechanism would be the condenser or other tuning mechanism of the set, you would have to resort to pulleys or gears, wouldn't you?

A. No. I would make the Schaefer device part

(Testimony of Samuel S. Mackeown.)

of the set and have it project out in front of the set.

Q. Then the condenser would not be right back of the buttons or levers, would it?

A. It doesn't have to be.

Q. No; I didn't ask you that. You couldn't then get this arrangement of the Crosley set Exhibit No. 22, with the condenser mechanism back of the dial and the levers, without some kind of a pulley or gear arrangement? That is what I meant.

A. I think I could. I don't see any difficulty in actually making that shaft or directly connecting that shaft of the Schaefer device to the condenser shaft of the defendant's apparatus and having the Schaefer device part of the front of my set. It certainly would make it bigger, as we have both agreed upon. I don't see any necessity of gears.

Q. I don't think you understood the purport of my question. In Exhibit No. 22 the push buttons are arranged immediately in front of the space occupied by the condenser. Now, by placing the shaft of the Zenith device in alignment with the shaft of the condenser, that arrangement would not be present, would it? [463]

A. No. If I put the condenser to one side of the Schaefer device, it would not be in back of the Schaefer device.

Q. If you wanted to put the tuning mechanism, and by that I mean the condenser, back of your mechanical buttons, you would have to use some-

(Testimony of Samuel S. Mackeown.)

thing in the nature of gears or pulleys, wouldn't you?

A. I think that would probably be the best way to do it.

Q. In relation to the Cunningham patent, a part of Exhibit J, is there any statement in the patent that this coaxial relationship that we have been talking about exists? I mean in the specification aside from the drawings.

A. No; I don't think there is any statement in the specification that that coaxial feature exists except it does say that Fig. 7 shows the position when the pivot 49 and the pins 56 are in contact and align the actuating or positioning element or member 57 carried by the shaft 58. I don't think it specifically states in the patent that in that position you have coaxiality.

Q. If you wanted to have element 57 of Cunningham cooperate with more than one of the elements such as 55, do you see any way of doing that without a complete redesigning of the Cunningham apparatus?

A. Well, it would certainly take a change in design. I don't know what you mean by a complete redesign.

Q. It would be a very material change in design but [464] could it be done at all?

A. Oh, yes; it could be done. I would say you could hand this to a machine designer and he would have no difficulty in doing that if you requested

(Testimony of Samuel S. Mackeown.)

it but it certainly would take a change in design. You couldn't use the apparatus as it appears in the patent.

Q. You have no ideas at the present moment how that could be done? A. Oh, yes.

Q. Will you state that?

A. There are a number of ways. Each one of these rockers 57 could be separate and they could then be connected so that each one separately would actuate the condenser so that, as any one was pressed, that would move the condenser into the position determined by the pressing of that one, or you could run an arm around the bottom of each device and put them in what you call a series side by side so that, as you pressed any particular one lever down, it would actuate the single shaft 58 and thus move your condenser. There would be a number of ways in which you could design this.

Q. How would you insure that the wheel 55 would be able to pass downwardly without interference?

A. Well, I would sort of put a U in my shaft 58, something like you have in the crankshaft of your automobile, so that that shaft could rotate without interference with [465] the wheel 56.

Q. How would you be able to adjust the position of the wheel 55 when it is brought down to the position in Fig. 7 where the bars or pins 56 are in contact with the member 57?

A. Well, of course, we are changing the Cun-

(Testimony of Samuel S. Mackeown.)

ningham device now so that you are going to use it. That would simply require a locking device on the wheel 55 and the wheel would be locked in the desired position when you had contact between the pins 56 and the rocker 57,

Q. That is not disclosed in the Cunningham patent, is it?

A. No; that is not disclosed in the Cunningham patent.

Q. It would be useless as far as Cunningham is concerned to do that, wouldn't it?

A. Yes; it would be useless as far as Cunningham is concerned to do that for the purpose for which this Cunningham apparatus is adapted in his particular case, that is, for the measuring of carbon dioxide in flue gas.

Q. In the Woodbridge patent, a part of Exhibit J, you called attention to the elements shown in Fig. 10? A. That is correct.

Q. Which is the rocker element there or equivalent of a rocker?

A. The rocker element consists of the rocker composed of the two bars marked D-2 and the shaft D-3. [466]

Q. And what is the part that is adapted to cooperate with this rocker mechanism?

A. That is the tappet marked C-3.

Q. Is that tappet anywheres described as adjustable?

(Testimony of Samuel S. Mackeown.)

A. No. For the purpose Woodbridge has he doesn't want it adjustable. He has a different tappet for each numeral. [467] There are different shapes or different tappets for different keys, that is, for the key marked 1 you have one and for the key marked 2 you have another but they are not adjustable.

Q. The tappet, as you term it, C-3, could not possibly enter between the pins D-2 upon actuation of this mechanism, could it?

A. No. That is true. It is shaped so it couldn't. And, also, this shaft D-3 prevents it from doing it.

Q. In the Miller patent of Exhibit J you mentioned Figs. 9 and 10, I believe. A. Yes.

Q. In that case what is the element which you construed as a tappet?

A. That is the arm 4 with the peculiar shaped protuberances on its upper side, those marked 13 and 12.

Q. Is that tappet adjustable in any way in Miller?

A. No, it is the same case as in Woodbridge. The tappets for the different numerals are different shaped but no one of these is adjustable.

Q. I think you mentioned that you had been giving courses in connection with machine design?

A. No; I did not. I never taught a course in machine design. I said I had taught courses in mechanics to engineers but not in machine design.

Q. Did you ever have any problems there in

(Testimony of Samuel S. Mackeown.)

connection [468] with your courses relating to the frictional restraint of one element with respect to another? A. Oh, yes.

Q. How would you determine the required frictional restraint to keep a member in set position?

A. Well, it depends on what your surfaces are. If you have two flat surfaces, you can obtain your frictional restraint by taking the weight by which one body presses against the other and multiply it by the coefficient of friction.

Q. If you didn't have enough friction to restrain the elements from relative motion, you would then simply either increase the coefficient of friction by a proper choice of materials or surfaces or by increasing the force, pressing all elements together?

A. Yes. Either one of those would increase the frictional force.

The Court: You must have been taking a course from the Doctor.

Mr. Flam: No; but I have taken a course.

A. He is a good engineer, I know, your Honor.

Q. It is a comparatively simple thing to provide for a frictional restraint, then, to overcome any tendency for parts to have relative movement, isn't that right? A. Not always.

Q. Have you the Schaefer lever, the lever that came [469] out of Exhibit A? A. Here it is.

Q. This Schaefer lever, Defendant's Exhibit K, illustrates a very simple frictional restraint, doesn't it?

(Testimony of Samuel S. Mackeown.)

A. Yes; it illustrates a very adequate frictional restraint but this is adapted for the restraining of one tappet; not two. This is really a very nice design.

Q. By the Court: To what exhibit are you referring?

A. This is Defendant's Exhibit K.

Mr. Flam: That is all.

Mr. L. S. Lyon: That is all, Doctor.

Mr. Flam: I would like to put on a rebuttal witness now, if your Honor please.

Mr. L. S. Lyon: I want to make a statement first before we close our case. Yesterday, towards noon, your Honor asked Mr. Kilgour a question and brought out that there were certain applications that had been filed on the defendant's accused tuner. At the noon hour Mr. Yungblut telephoned his office in Cincinnati and they said they would put them on an air express plane at Cincinnati yesterday afternoon and mark them special delivery, and they are to be brought over here as soon as they arrive and I suppose they will be here this morning unless something has delayed the air express plane. We are willing to produce those and put them in evidence or at least open them to your Honor's inspection before our case is closed, [470] although I suggested to Mr. Flam yesterday afternoon that, in view of the fact that Mr. Yungblut was the one who wrote those applications and as he is an attor-

ney in this case, they might be willing to take his statement that no claims were requested or written in those applications asserting that this coaxiality or symmetry of these pivots constituted a patentable invention. He knows that because he wrote them and he is here. I don't know whether you will take his statement or not but, anyhow, we are going to have the applications here and they should be in here this morning.

The Court: I know, but the defendant is in the position as far as the court is concerned of attacking the validity of the patent of the plaintiff, and it appears to the court that the defendant was attempting to obtain an application on what might be classified as a similar device. In other words, if the patent is to cover the device referred to here as the accused device, we find it has a tappet and it has a rocker and there is also coaxiality. Those are three similarities between these two devices. You come to me and say that their device is invalid and you introduce here other patents to show the state of the art.

Then at the same time you are attempting to obtain a patent on the same, or I wouldn't say the same, but, generally speaking, a device containing many of the elements [471] that the plaintiff's device contains. That, naturally, raises in the court's mind a question of good faith on the defendant's claim of invalidity.

Mr. L. S. Lyon: We want you to see the applications if there is any question at all or any desire

to see them. The situation is not unusual. It comes down to this, that the plaintiff conceded that there was nothing new or patentable in so far as his device employed a rocker or a tappet but he is contending that the sole point of invention is in this coaxiality. Now, there are many other points of the defendant's device, which are not present in the plaintiff's device, which could be the subject of patent applications.

The Court: That may be but you can understand the thoughts that would be in the court's mind.

Mr. L. S. Lyon: I want you to have anything we have.

The Court: I don't know whether, as a matter of fact, it is of any materiality in this case, the fact that you people have applied for it. And my comments may be entirely out of place. I have tried to keep counsel informed of the thoughts that are in the court's mind.

Mr. L. S. Lyon: As I said, these things have been sent by air express and will be here some time today. If we could go ahead and just reserve the opportunity to bring them in as soon as we get them, that will be all right as far as we are concerned.

[472]

The Court: All right. You may proceed with your rebuttal testimony.

Mr. Flam: Before I proceed with that witness, I would like to return to the defendant what is left of the Crosley radio set they sent me. I have no

further use for it and I don't think it should be put in as an exhibit.

The Court: In other words, you want to place the responsibility upon them of taking it away from the courthouse.

Mr. Flam: Unless your Honor would like to have it.

The Court: No.

Mr. Flam: Will you take the stand again, Mr. Leishman? [473]

LeROY J. LEISHMAN,

the plaintiff, being recalled in rebuttal, testified as follows:

Direct Examination.

Q. By Mr. Flam: We have been having a considerable amount of testimony here, Mr. Leishman, regarding treadle bar mechanisms, using that term as a general term to designate apparatus such as illustrated in Plaintiff's Exhibit No. 8. Do you know of any other patent application on such treadle bar tuners, in which importance is attached to coaxiality as we are considering it here?

A. Yes; I do.

Q. What is that application?

A. It is an application filed in the name of Earl H. Allen, assigned to the General Instrument Corporation, in which the attorneys were James & Franklin, the firm of attorneys that wrote that letter

(Testimony of LeRoy J. Leishman.)

that was introduced in evidence in court one day, that the court referred to as a polite letter, I believe.

Mr. L. S. Lyon: If your Honor please, I think that should be stricken because whatever James & Franklin, on behalf of the General Instrument Company, may have done is not admissible against this defendant.

The Court: There has nothing been admitted.

Mr. L. S. Lyon: He made a statement about it.

The Court: He said the attorneys that drew the papers [474] but, in accordance with your statement, it is not a perfect statement of the facts. It is not possible under the English language to draw one. So the court views it in that light.

Q. By Mr. Flam: What is the filing date and serial number of that Allen application, Mr. Leishman?

Mr. L. S. Lyon: I object to a reference to this Allen application. It is not admissible against the defendant in this case or any testimony in regard to it.

The Court: If he wants to introduce the patent, we have been quite liberal in the introduction of documents, and if the plaintiff thinks it is of any assistance, he may proceed.

Q. By Mr. Flam: Did you answer that? What is the filing date and serial number of that application?

A. The filing date is March 24, 1938 but I will have to find the serial number.

(Testimony of LeRoy J. Leishman.)

Q. By the Court: Was there a patent issued on it?

A. No. It was just an application, your Honor. I might state that I—

Mr. L. S. Lyon: No. I want to object to testimony in regard to this application. In the first place, it is not before the court and, in the second place, I don't believe it can be admitted as against this defendant. This is an application of some third party who is not a party to this suit. [475]

The Court: What is the purpose?

Mr. Flam: There has been a great deal of stress laid on the proposition that coaxiality or no coaxiality makes no difference and that nobody would bother about stressing it anywhere.

The Court: Then, wherein would the statement in an application for a patent by a third party have any weight in a case of this kind?

Mr. Flam: That at least somebody's thought—

The Court: I know, but you might introduce the Encyclopedia and find something about it, too, or the Dictionary.

Mr. Flam: And some of the claims in that application do recite that as an important feature of the claim—

The Court: Suppose that it does. Assume that it does. What materiality would it have in this case?

Mr. Flam: Not any more than statements by various experts on the stand to the effect that coaxiality makes no difference.

(Testimony of LeRoy J. Leishman.)

The Court: But here is a man who is making certain statements in an application that is not before this court, is not under oath and it is not with the right of cross examination. I assume that, if it were available, you could get applications from the Patent Office covering any theory you wanted to cover.

Mr. Flam: And I suppose you could get experts to [476] testify, too.

The Court: Yes; I think that is probably true. I think you could get experts to testify to about anything you wanted them to testify to. I will agree with that. And that is no reflection on any of the experts in this case. In one case I had a medical expert who testified that a man was shot through the back with a shotgun and shot through the heart and died of heart failure. So, after hearing that expert testimony, I am willing to agree that you can get experts to testify to anything.

Mr. L. S. Lyon: I submit that proves my statement about the English language because literally maybe that was true.

The Court: He didn't die from a gunshot wound at all.

Mr. Flam: I think we had better put that file wrapper away, Mr. Leishman.

The Court: I don't want to foreclose you from any material evidence, Mr. Flam, that may be material to your case, but I can't see any logic to

(Testimony of LeRoy J. Leishman.)

your claim of materiality whereby it could be introduced.

Q. By Mr. Flam: I call your attention to the four exhibits, magazines or pages of magazines, Exhibit 32, Exhibit 33, Exhibit 34 and Exhibit 35. Do you have any information that would indicate the closing dates for advertising in these magazines?

A. I do. [477]

Q. Will you please produce that and state to the court what that is?

A. I have here the Standard Rate and Data Service Monthly of February, 1938, which is used in the advertising business to give information as to when advertising must be in the offices of the magazines in order to appear in given issues of a magazine; and this contains that information with respect to some of these magazines.

Q. Will you take them in order, in the order of this series of exhibits?

A. I haven't looked up this Retailing for February, 1938 because I think that speaks for itself.

Q. All right.

A. I will find the information relating to the others. On pages 21 and 24 of this magazine this information can be found. On page 21 the information is given with respect to two of these magazines. The Automobile Digest—Where do you find what the exhibit numbers are?

Q. Look on the page, only the page that has been introduced. This is page 43.

(Testimony of LeRoy J. Leishman.)

A. Will it state there what the number of the exhibit is?

Q. Yes. Exhibit No. 34.

A. With respect to the Automobile Digest, the information is contained under the heading "Automobile Digest" that the magazine is published monthly, issued on the 1st [478] of the publication months, and that the forms close on the 20th of the preceding month, which would indicate at least that the advertisement in that magazine would have to be in the office of the magazine by the 20th of March, 1938. And with respect to the Automobile Trade Journal, of which page 15 constitutes Exhibit No. 35, similar information is contained. It states that that magazine is published monthly; that it is issued on the 10th of the publication month and that the last forms, black and white only, which is in parenthesis, close the 25th of the preceding month, which would indicate that that advertisement, which is the same copy as that in the preceding exhibit to which I referred, had to be in the office of the magazine on the 25th of March, 1938. And with respect to Motor, page 141 of which is Exhibit No. 33, the information is found on page 24 of this magazine. Pages 24 and 25, I should say. And I would like to make that correction on the cover. That makes three pages of this magazine pertinent.

The Court: I don't think it is necessary to introduce the magazine. You are introducing the information. So the record speaks for itself.

(Testimony of LeRoy J. Leishman.)

A. It states, on page 25, that the magazine is published monthly; issued on the 1st of the publication month, and that the last forms close on the 15th of the preceding month, which indicates that that advertisement, which is the same as the other two, had to be in the office of the [479] magazine by the 15th of March and April, 1938.

Q. By Mr. Flam: This publication that you have referred to is entitled "Standard Rate and Data Service", is that right?

A. That is right; a monthly edition, I believe it says somewhere. Doesn't it? It is for February, 1938.

Q. Do you know whether that is a standard magazine or publication in connection with this matter of advertising and closing dates?

Mr. L. S. Lyon: I don't think there is any question about that.

Mr. Flam: We will let it go, then.

Mr. L. S. Lyon: I never saw it before but it looks like a formidable publication. I am quite interested in the fact there is that kind of a publication. I didn't know it.

Mr. Flam: Maybe I had better show it to you.

Mr. L. S. Lyon: Oh, no. I will accept it that that was published on that date and that it is a compilation of closing dates, and that they are relied on by the advertising agencies and others interested in inserting advertisement in various publications.

(Testimony of LeRoy J. Leishman.)

Q. By Mr. Flam: That is in connection with the McGraw-Hill publication? It is limited to that, isn't it, Mr. Leishman?

A. Oh, no. They publish that magazine but it gives [480] information with respect to all business magazines or trade journals.

Q. When did you have your first contact with the Crosley Radio Corporation?

A. In the summer of 1937, either in the latter part of July or the first part of August.

Q. Can you state to the court just what that comprised and how it came about and so on, in your own words?

A. I was trying to interest the radio industry, of which the Crosley Corporation formed a part, in automatic tuning devices and, in particular, automatic tuning devices in which the contact of an operating arm moved a rotatable member and positioned it by what might be called a two-point contact on opposite sides of the rotational axis; and I called on a good many concerns at that time. I had a model of one form of the device with me. And I might say, for the guidance of the court and so that the defendant won't think that I am stating that this was the specific mechanism involved in any of the exhibits here, that in that particular device the rotatable member on the shaft was the adjustable element but, nevertheless, it was positioned by contact on both sides of the axis. And I was trying to sell the radio industry on that gen-

(Testimony of LeRoy J. Leishman.)

aral method of tuning or positioning, on which I had two patents pending, one of which resulted in the original patent here in suit and another of which issued some time later. [481]

Q. What do you mean by some time later? Do you mean some time after your visit?

A. Later than the reissue patent for that matter. I showed this mechanism to the chief engineer of the Crosley Radio Corporation, Mr. Fred Johnston.

Q. Where was that?

A. This was at the plant of the Crosley Radio Corporation located in Cincinnati.

Q. And when, as nearly as you can state?

A. I stated that it was the latter part of July or early in August. I will state that it was in August. I don't know whether I can identify it much more accurately than that.

Q. What year? A. 1937.

Q. Go ahead.

A. Perhaps I may have something here that will determine that date a little more accurately. No; I think that is the best I can do, August, 1937.

Q. You stated you saw Mr. Johnston, did you say? A That is right.

Q. At the plant of the Crosley Corporation in Cincinnati? A. Yes.

Q. Now, state what transpired. [482]

A. He stated that many inventions pertaining to radio were brought to his attention and that it was very refreshing to find something that he could use.

(Testimony of LeRoy J. Leishman.)

And he stated that, unfortunately, Mr. Crosley, Mr. Powell Crosley, Jr., the head of the corporation, was out of the city and he wanted to know if I could come back to Cincinnati. He knew that I was on my way to Washington, New York and other cities, calling on various radio manufacturers, and he asked me if I couldn't stop at Cincinnati on my way back. And I told him that I didn't intend to come that way; that I was going to return by way of Buffalo and Detroit. And he stated that it wouldn't be very much out of my way to come down from Detroit to Cincinnati and then go on to Chicago. And he told me when I got to Buffalo, I believe it was, to send him a wire to find out if Mr. Crosley would be in the city. He said, "I can't guarantee that he will be here and I don't want you to have a wild goose chase. You may arrive and find out that he is away again." So he requested that I send him a wire. So I sent him a wire. This was early in September, now, of 1937. And I received from him a wire dated September 9th.

Q. What year?

A. 1937. It is dated Cincinnati, Ohio, and the telegram is addressed to me, L. J. Leishman.

Q. What city?

A. It was received at the Statler Hotel, Buffalo, New [483] York, and bears the stamp of the Statler Hotel. And the telegram reads, "Mr. Crosley——"

The Court The telegram speaks for itself.

(Testimony of LeRoy J. Leishman.)

Mr. Flam: We offer the telegram referred to by the witness in evidence. A. So——

Mr. Flam: Just a moment.

The Court: Admitted.

The Clerk: Plaintiff's Exhibit No. 36.

Q. By Mr. Flam: Go ahead, Mr. Leishman.

A. So, as requested in the telegram, and when it was next convenient for me to be in Cincinnati, I again wired Mr. Johnston and received another wire from him advising me when I might see Mr. Crosley.

Q. Where was that received?

A. That was sent to me in Chicago.

Mr. Flam: The telegram referred to by the witness is offered in evidence.

The Court: Admitted.

The Clerk: Plaintiff's Exhibit No. 37.

Q. By Mr. Flam: Go ahead.

A. So I went back from Chicago to Cincinnati and went first to see Mr. Johnston. I hadn't yet met Mr. Crosley. And I spent the better part of the afternoon at the plant, where I was very cordially received by Mr. Crosley.

Q. When was that as near as you can tell or recollect? [484] If necessary, refresh your recollection from these telegrams.

A. The telegram will determine that date because I arived on the date indicated in the telegram. It was September 22, 1937. I might further verify that by my bill from the Netherlands-Plaza Hotel.

(Testimony of LeRoy J. Leishman.)

Q. That is just to refresh your recollection, is all.

A. All right; that was September 22, 1937.

Q. And what transpired then?

A. I again demonstrated my device that positioned the rotatable member by two-point positioning and Mr. Crosley exhibited the same enthusiasm that Mr. Johnston had exhibited; and he wanted to know how I had gotten along with the rest of the radio industry and if I had licensed anyone since my previous visit to the plant, when I had talked to Mr. Johnston alone. I told him that I had licensed the Crowe Name Plate & Manufacturing Company of Chicago, and he stated that he was interested in knowing that because it might be then that, instead of making their own, they might want to buy them from the Crowe Name Plate & Manufacturing Company. He asked me what kind of arrangements could be made on a royalty basis. I discussed the terms of the royalty and he wanted to know if I could send him a license agreement. And I told him that I had anticipated that. I had two forms with me and also a copy of the first patent that had issued on the parent application [485] of a device that contained one claim that was pertinent to the particular tuner that I had showed him. So he told me that they would go over the agreement and that I would hear from them further.

Q. Who was this, now?

A. This was Mr. Powell Crosley, Jr. The Junior,

(Testimony of LeRoy J. Leishman.)

by the way, didn't indicate that he was the son. Powell Crosley is the head of the corporation, as I understand it, or at least he was at that time, and associated with him in the management of the company was his son Powell Crosley the Third, whom I met on one of these trips, I don't remember which.

Q. Go ahead.

A. That was all that happened at the time of that trip. He said I would hear further from him or from the company. I did hear further. The next that I heard was when I received a letter from Allen & Allen, the firm of attorneys of which Mr. Yungblut is a member, dated October 25, 1937, in which he states that he was asked to investigate——

Mr. L. S. Lyon: Just let the letter speak for itself.

Mr. Flam: I offer the letter referred to by the witness in evidence.

The Court: It may be admitted in evidence.

The Clerk: Plaintiff's Exhibit No. 38.

The Court: We will take our morning recess now, gentlemen, of 5 minutes. [486]

(Short recess.)

Q. By Mr. Flam: In Exhibit No. 38 mention is made of patent No. 2,084,851. Will you state what that patent is?

Mr. L. S. Lyon: You have a copy of it, haven't you, Mr. Flam?

Mr. Flam: Well, I think there is a copy.

(Testimony of LeRoy J. Leishman.)

Mr. L. S. Lyon: I have one here if you haven't.

Mr. Flam: It has been offered in evidence. No; it isn't this one.

A. That is the first patent that issued.

Q. By the Court: Is that the one that was filed in 1934?

A. Yes; that is the first patent that issued from the parent application.

The Court: May I see that exhibit?

Mr. L. S. Lyon: Here is a copy of it.

A. In that parent application a good many different tuning devices were shown and that was the first patent that issued on that parent application.

Q. By Mr. Flam: A copy of that patent is present as Plaintiff's Exhibit No. 31, isn't it?

A. That is right; Plaintiff's Exhibit No. 31.

Q. Do you have a copy of the file wrapper of that patent Exhibit No. 31? A. I do. [487]

Q. That Allen & Allen were asked to investigate? A. I do.

Q. Will you produce it?

A. I have it here.

Q. That is a certified copy, is it?

A. Yes; certified by the Patent Office.

Mr. Flam: I offer the certified copy, produced by the witness, in evidence.

Mr. L. S. Lyon: May I ask the pertinency of that because it looks like a formidable amount of reading? While the court may be willing to read it,

(Testimony of LeRoy J. Leishman.)

I would like to know whether I have to study it or not.

Mr. Flam: The pertinence becomes apparent in the next question.

The Court: All right; it may be admitted.

The Clerk: Plaintiff's Exhibit No. 39.

Q. By Mr. Flam: Will you point out to the court in this file wrapper wherein is disclosed the device of the reissue patent that is in suit?

A. Of course, it is described in the specification and it is also illustrated in Figures 14, 15 and 16. That, of course, does not appear in that patent because the application was divided and I was asked to make it the subject of or I was permitted to make it the subject of a special patent application instead of including it with the other.

Q. That disclosure was present in the application, was [488] it?

Mr. L. S. Lyon: The application speaks for itself on that. I think you might make any statement to the court that you want the court to understand now about the application but I don't think the witness should.

Mr. Flam: I might make the statement, your Honor, that, where an application is filed covering separate inventions all in one application, whether or not those two inventions may be covered in one patent is determined by certain rules in the Patent Office and in many instances the Patent Office requires that the disclosures be separated and separ-

(Testimony of LeRoy J. Leishman.)

ate inventions applied for in separate applications. And that is what happened here and in doing that the Patent Office required that the subject matter be made into a later application and be deleted from the parent case. But the parent case itself as it existed in the Patent Office does disclose that it had the disclosure of the divisional application in it. Accordingly, anyone investigating the patent and obtaining the file wrapper, which is open to the public, being a public document, would know that that disclosure was there. That is open to the public just as soon as the patent is issued.

Q. Is there anything else, Mr. Leishman, regarding this Crosley contact or transaction that you wish to state to the court?

A. I might state to the court that the claims pertaining [489] to that device——

Mr. L. S. Lyon: I don't think that this witness ought to testify about the claims or what happened to them when they are in a written document.

Mr. Flam: No. If you refer to the written document, we will let it speak for itself. If that is all, I will close. A. All right.

Mr. Flam: You may cross examine.

Cross Examination

Q. By Mr. L. S. Lyon: Mr. Leishman, what tuner was it that you showed to Mr. Crosley and Mr. Johnston at these meetings in 1937?

(Testimony of LeRoy J. Leishman.)

A. It was a tuning mechanism embodying the same invention as that Gilfillan tuner that you produced in evidence.

Q. Do you mean that you designed for Gilfillan?

A. Yes.

The Court: Just a moment. That is the one that did not——

A. It had little black keys on the front of it. Here it is. It was the patent covering the invention embodied in that. The form or the shape of the parts was different than that but the principle and the mode of operation were the same. [490]

Q. By Mr. L. S. Lyon: You referred to having gone to see the radio industry and one of your calls was on Crosley to sell them a two-way positioning device? A. Two-point positioning.

Q. By a two-way positioning do you mean that a person desiring to tune a set would actuate a member and that that member, in turn, would actuate something else to turn the shaft?

A. It would engage a rotatable member on both sides of the rotational axis and position it in that way.

Q. By the Court: Let me understand that. This is Exhibit G and it is the one that you tried to interest the Crosley people in at the time of your interview with Mr. Johnston, is that right?

A. Not this specific mechanism but the principle. I tried on my direct testimony——

Q. Not a coaxial set-up?

(Testimony of LeRoy J. Leishman.)

A. It would be coaxial not in the sense we have been using it but in the sense in which the word has been used by the defense, in the broad sense in which they have used it. Of course, everything has been defined in this case as either coaxial or eccentric, or I mean concentric or eccentric.

Q. By Mr. L. S. Lyon: In mechanics everything is concentric or eccentric, isn't it?

Mr. Flam: Not at all. [491]

A. No; I wouldn't say so; not by any means.

Q. By Mr. L. S. Lyon: At the time you made that trip east to interview the radio manufacturers, which included these calls on Crosley, did you think that you were the originator and the first to conceive the two-positioning tuning as you have used that term?

A. I knew of the Zenith mechanism and I thought I was the first to use two-point positioning when the member that you positioned was the rotatable part.

Q. You didn't at that time know of the Marschalk device?

A. No. I had never heard of it.

Q. But you recognize now that the Marschalk device was ahead of you on that two-point positioning?

A. Oh, yes.

Q. In addition to showing this tuner to Mr. Crosley and Mr. Johnston which you have referred to, did you show them any patent or patent application?

(Testimony of LeRoy J. Leishman.)

A. I showed them the issued patent that I have, which is Defendant's Exhibit No. 31, and I showed them the drawings illustrating one embodiment of this two-point positioning idea embodied in the Gilfillan tuner.

Q. But you didn't show them any patent or patent application on any tuner corresponding to the reissue patent here in suit or to the device illustrated and described in that patent, did you?

A. No. In fact I tried very carefully to indicate that [492] it wasn't that device that I showed them.

Q. And you don't claim to have disclosed that feature to the Crosley people until your meeting in March, 1938, at which time you had this discussion about whether your original patent involved in this suit, containing original claim 5, was limited to a lever or not?

A. That question is so long I have forgotten it.

Q. Maybe I can straighten it up. What was the date of this meeting you had later, where you discussed the interpretation of original claim 5, what month? It was in 1938, wasn't it?

A. That was in the middle of March some time. I think there are exhibits here that will identify that date definitely.

Q. But you don't claim to have disclosed to the Crosley people the device that is involved in your reissue patent in this suit until that meeting?

A. I disclosed it to them by sending them a copy of the patent when it issued.

(Testimony of LeRoy J. Leishman.)

Q. The original patent?

A. The original patent.

Q. That was the first time you made such a disclosure to Crosley?

A. That was the first time that I personally made that disclosure.

Q. When was that? [493]

A. That would be in February, 1938.

Q. And that was after you knew that Crosley was already manufacturing the accused tuner here?

A. Yes. About a week after I had seen the Crosley device, I immediately served a notice on them.

Q. That is the first time that you personally disclosed that structure to the Crosley people?

A. That is correct.

Q. Do you know of any earlier disclosure of your structure or of that structure to Crosley?

A. It was in my parent application.

Q. But you know of no other disclosure?

A. I don't exactly understand that question. Do you mean personally?

Q. Do you claim there was any other disclosure, prior to your meeting in March, 1938, of this device shown in your reissue application, involved in this suit, to the Crosley people, any prior disclosure?

A. Well, the disclosure in the original file wrapper.

Q. And that is all? You don't claim any other?

A. Well, in my foreign patents that had already issued it was shown.

(Testimony of LeRoy J. Leishman.)

Q. Did you actually, yourself, call attention of the Crosley people to those foreign patents?

A. Oh, no.

Q. Have you any evidence of any knowledge that the [494] Crosley people saw either the disclosure in your original application or in any foreign applications prior to your sending them a copy of the original patent containing original claim 5 involved in this case? A. No.

Q. By the Court: May I ask a question there? When you answered this letter of Allen & Allen, what did you send them?

A. I sent them a copy of the application on the patent on this device.

Q. By Mr. L. S. Lyon: Which device is that, exhibit what?

A. Exhibit G. That is on the patent.

Q. By the Court: That is not the patent or the reissue that is involved in this suit, is it?

A. No. And I have tried to definitely differentiate those.

Q. The letter of Allen & Allen refers to your original patent No. 2,084,851, dated June 22, 1937. Did you send them a copy of that patent?

A. They already had a copy of that.

Q. They had a copy?

A. Yes. That is the one they were asked to investigate. They had a copy.

Q. What was the occasion of their being asked to investigate that patent? [495]

(Testimony of LeRoy J. Leishman.)

A. You can't investigate a patent merely from the patent.

Q. I know. But what I am trying to clarify in my own mind is this. You testified that you were there, I believe, on September 22 and were trying to interest the radio industry in your model known as Defendant's G.

A. I think some of the words we have been using here may not be——

Q. Let's see if I can clarify in my own mind what the real situation was. Is it not true that you were there trying to interest the defendant in your patent that is represented, in a sense, by Defendant's Exhibit G? A. Yes; that is true.

Q. Now, thereafter you received a letter from Allen & Allen? A. That is right.

Q. Why did Allen & Allen refer to your patent No. 2,084,851? What was the occasion of it? How did the discussion ever arise over that patent?

A. Because there was one claim in that patent that had to do with one feature of the particular model on this principle that I had demonstrated to them.

Q. Had you called their attention to that?

A. Oh, yes.

Q. Whose attention?

A. The attention of Mr. Johnston. [496]

Q. You had called his attention to it?

A. Oh, yes.

The Court: That is all.

(Testimony of LeRoy J. Leishman.)

Q. By Mr. L. S. Lyon: In reply to this letter from Allen & Allen, which is Exhibit No. 38, I notice that Mr. Yungblut says, "It would facilitate our consideration of this matter if you would let us know the status of the application, what claims have been allowed and what the nature of the rejection on the other claims is." What application did that refer to?

A. The application on the patent covering the principles of the device that I had demonstrated to them.

Q. You mean by that similar to Exhibit G?

A. Yes; similar to Exhibit G.

Q. In reply to that letter did you send them a copy of that application?

A. I don't recall whether I sent them a copy of the application. I sent them a copy of the claims, which I thought was more pertinent.

Q. They are not the claims involved in the reissue patent here or the original of that patent?

A. No. In fact I have tried all along to not infer that in any sense.

Q. In other words, you are not inferring that, up to your meeting in March, 1938, your disclosed that kind of a device to the Crosley people? [497]

A. I personally didn't. In fact, I think I can help you out on that by stating that the patent that I had pending on that particular feature hadn't yet issued. I had two methods of two-point positioning and I didn't want the Crosley people or anybody

(Testimony of LeRoy J. Leishman.)

else to know about that yet because my patent wasn't issued. So, so far as I was concerned, knowing that the information could be found in other ways, I wasn't disclosing it personally.

Q. And you don't know that the Crosley people ever found it in any other way prior to your sending them a copy of the patent in February, 1938, do you?

A. I would have no way of knowing whether they investigated that patent or got the file wrapper or went to Washington or not. Anybody can do that.

Q. How do you know they can? If you have an original application and a certain subject matter is divided out and the patent issues on only the remainder, can anybody, in getting a file wrapper copy of the issued patent, get from the Patent Office a copy of the matter that has been divided out of it and which is the subject of another pending application? A. Yes.

Q. Are you sure of that?

Mr. Flam: Mr. Lyon, this file wrapper shows it.

Mr. L. S. Lyon: Mr. Leishman, of course, can get anything he wants because he is the applicant and has a [498] right to a copy. But can a third party do that?

Mr. Flam: Oh, yes. That is the complete file wrapper right there of the patent case, not of the divisional, and it shows everything completely that happened.

Mr. L. S. Lyon: It is not my understanding that

(Testimony of LeRoy J. Leishman.)

a third party can get a file wrapper of a parent case when there is contained in it matter which has been divided out and which is still the subject of a pending application.

Mr. Flam: Why not?

Mr. L. S. Lyon: I don't think it is going to make any difference, though, in this case because no such copy was obtained.

A. Anybody getting a copy of the file wrapper of the first patent that issued on that will get a file wrapper just like that or anybody going to Washington to investigate it will see everything that was in the original application and the correspondence pertaining to it.

Q. Patent No. 2,084,851 covers still a third form of device, does it not, neither the one shown in the patents here in suit nor the one that you showed to the Crosley Corporation in 1937, which corresponds to Exhibit G, isn't that correct?

A. It shows a third device but there are some points in common in that mechanism or some features that were in some of these other patents.

Q. That were in the one that was shown to the Crosley [499] people in 1937?

A. That is right.

Q. This patent No. 2,084,851 covers the form of device that you are accusing the Philco Company of infringing, isn't that right, in a suit that is to be tried here before this court in December?

(Testimony of LeRoy J. Leishman.)

Mr. Flam: I object to that as wholly irrelevant and improper cross examination.

Mr. L. S. Lyon: I think the court ought to know that this particular patent is going to be litigated before it.

The Court: Which patent is that? Is it the one that is marked here?

A. It is No. 2,084,851, laying on your desk, your Honor.

The Court: I think I will find that out in December, Mr. Lyon.

Mr. L. S. Lyon: The clerk calls my attention to the fact that in Exhibit No. 39, the file wrapper, in accordance with the requirement that notice of suits pending on patents be included in the Patent Office file, there is a reference to the suit in question.

The Court: I will come to that headache when the time comes.

A. So will I.

Mr. L. S. Lyon: I think that is all. [500]

Redirect Examination

Q. By Mr. Flam: Just one question, Mr. Leishman. You mentioned foreign patents disclosing the device that is made the subject matter of the reissue patent in suit. A. Yes.

Q. When was the first foreign patent taken out?

The Court: What difference does that make?

Mr. L. S. Lyon: I don't think that is competent.

(Testimony of LeRoy J. Leishman.)

It would have to be proven by the documents themselves.

The Court: Suppose a patent was issued in a foreign country. Would that be of any materiality in the case here?

Mr. Flam: It would be available here as a publication.

The Court: I know. But what would it add?

Mr. Flam: It would be a further dissemination of knowledge as to this structure to the public.

Mr. L. S. Lyon: You have to have competent proof of it, in any event. The witness can't testify to it orally. You can't prove the contents of a document or the character of a document without having the document itself. You can't prove it orally.

Q By Mr. Flam: Do you have the document with you?

A. No. In fact, I might say I guess this is the first time Mr. Flam ever knew I had any foreign patents pending.

Mr. L. S. Lyon: But the evidence has to prove that Crosley knew it. Your own attorney didn't know it, is that right? [501]

A. No; I wouldn't say that. The evidence was available.

Mr. Flam: That is all. The plaintiff rests.

Mr. L. S. Lyon: Except for these file wrappers and one point I want to ask Mr. Yungblut about, if he may take the stand with reference to it, I

think the evidence is complete. I can do that now or, as I expect to have him identify the applications when they arrive, I can put him on later on both points.

The Court: If you want to put Mr. Yungblut on, you may do so.

Mr. L. S. Lyon: I will put him on right now.

Mr. Flam: Is this sur-rebuttal?

Mr. L. S. Lyon: Yes; and a continuation on that one point. [502]

GIBSON YUNGBLUT,

a witness for the defendant in sur-rebuttal, being first duly sworn, testified as follows:

Q. By the Clerk: Will you state your name?

A. Gibson Yungblut.

Direct Examination

Q. By Mr. L. S. Lyon: Mr. Yungblut, you are one of the attorneys for the defendant in this case and a member of the firm of Allen & Allen, patent lawyers, of Cincinnati, are you not? A. Yes.

Q. In 1937 and 1938 you were, at that time, as well as now, attorneys for the Crosley Corporation?

A. Yes.

Q. I show you Plaintiff's Exhibit No. 38. Did you write that letter to Mr. Leishman?

A. Yes. [503]

Q. You have heard Mr. Leishman's statements a moment ago as to the fact that, if you had ob-

(Testimony of Gibson Yungblut.)

tained a copy of the file wrapper of his patent Serial No. 2,084,851, or had examined or known of his foreign patent applications, you could have found therein a reference to or a disclosure of a device disclosed in the reissue patent involved in this suit? You heard that testimony, did you not?

A. Yes.

Q. Will you please tell the court whether or not you did obtain, prior to March, 1938, a copy of the file wrapper of the patent mentioned in your letter, Exhibit No. 38, or had any knowledge of the contents therein or of the device described in the reissue patent here in suit or of any foreign patents or patent applications of Mr. Leishman's describing such a device?

A. No; we had no file history of patent No. 2,084,851 until March of 1938. This is the first time I have ever heard of the foreign patents. I think your question had a third part which I have forgotten.

Q. Well, those are the two points I was interested in. I don't remember a third part. With reference to the patent applications that were filed on behalf of the Crosley Corporation covering the accused tuner involved in this case, you prepared and filed those applications, did you not?

A. Yes; I did. [504]

Q. And, as I understand from you, none of those applications attempted to claim as an invention the feature of coaxiality of the pivot which has

(Testimony of Gibson Yungblut.)

been mentioned in this case. And will you tell the court what you have done relative to obtaining the files on those applications for his Honor's inspection?

Mr. Flam: Just a moment. I object to that question on the ground that it calls for the witness testifying regarding the contents of documents not in court.

Mr. L. S. Lyon: I mean a statement of the circumstance. I understood you objected to the witness testifying to that point and I am asking him to tell what he has done.

The Court: The court accepts counsel's statement they have attempted to get a copy and it is supposed to be on its way.

Mr. L. S. Lyon: And it will be here. I am surprised it is not here right now.

The Court: I don't know that it is material to the case at all. I can't see its materiality except, as I stated, naturally, it aroused curiosity in the court's mind but whether that curiosity is material to any of the issues in this case is very doubtful.

Mr. L. S. Lyon: We haven't anything to conceal from your Honor and we wanted your Honor to see just what the situation was. [505]

Q. By the Court: Mr. Yungblut, have you any knowledge or information at all that indicates that any information was obtained from any of the patents or applications for patents of the plaintiff in

(Testimony of Gibson Yungblut.)

this case upon which your automatic tuner was founded? A. None whatever.

Q. Have you any information that any member of your firm or any representative of the defendant in this case obtained any information from the files at Washington? A. No. They did not.

Q. Do you have any reason to believe that they did? A. No. In fact, I know they did not.

Q. As far as you know, their development was independent entirely of any disclosures of the plaintiff? A. Yes; that is correct.

Q. You were present when the discussion occurred with the plaintiff relative to claim 5, were you? A. Yes.

Q. What is your recollection of that conversation? Is it about the same as the plaintiff testified to here?

A. Yes. I think, in general, the plaintiff has stated it quite fairly. We took the position that the claim was not infringed, giving, in general, the reasons that he gave.

Q. And what response did the plaintiff make to that?

A. Well, as the plaintiff pointed out, the conversa- [506] tion lasted about an hour. The plaintiff made no satisfactory response to that in the sense of answering the contention as I recall it. He did talk about the possibility of a disclaimer and at one part of the meeting or conversation, when I think

(Testimony of Gibson Yungblut.)

Mr. E. S. Allen was present, he mentioned something about the dangers of qualifying disclaimers. But there was no answer to the point that we made, so much so——

Q. What was the point that you made at that time in your discussion with him?

A. The point that we made may be summarized in this way, that the claim in its language refers clearly to a lever mechanism and could not refer to any such mechanism as is shown in the accused device here. Our statement was, as I recall it, not having the language of the patent before me, that means movable about a pivot and acting—I am not quoting the language of the claim but as nearly as I recollect it—acting to contact an arm of the rocker and push it in one direction until the rocker is stopped by collision of the other arm of the rocker and the other contact toe of the cam or tappet, was language which related to the action of the device during tuning; that during tuning, so far as the tappet or cam is concerned, it is necessary that it be not movable about a pivot but fixed.

Q. At that time was the discussion centered primarily around claim 5? [507] A. Yes.

Q. That was the only claim that it was claimed you people were infringing? A. Yes.

Q. Was there any discussion at that time relative to claim 5 being too general or too broad?

A. Do you mean in the sense that it was anticipated by the prior art?

(Testimony of Gibson Yungblut.)

Q. Yes. A. As to being too broad?

Q. Yes. A. I don't recall that; no.

Q. Did you say there was some discussion of a disclaimer on claim 5 at that time?

A. Mr. Leishman, as I recall it, either mentioned disclaimers or said that he might endeavor to fix up the claim by a disclaimer.

Q. What was wrong with claim 5?

A. The thing that was wrong with claim 5 was that it didn't cover the Crosley device according to our contention.

Q. Well, did it cover any device?

A. Yes; it covered the device shown in the Leishman patent.

The Court: That is all. [508]

Cross Examination

Q. By Mr. Flam: In considering Claim 5 of this patent, is there any statement there about a lever?

A. I am sorry but I didn't hear that.

Q. Is there any statement in there about a lever?

A. The word "lever" does not appear in the claim as I recall it.

Q. You looked over all of the claims of the original patent, didn't you? A. Yes.

Q. At that time? A. Yes.

Q. There is no doubt in your mind that Claim 1 definitely refers to a lever, is there?

A. May I see the patent, if you please?

(Testimony of Gibson Yungblut.)

Q. Yes.

A. Does Claim 1, Mr. Flam, contain the word "lever"? Is that what you mean?

Q. Yes. A. Yes.

Q That is an element of that claim, isn't it?

A. Yes.

Q. It also includes, as a separate element, a plurality of adjustable members pivoted to said lever, does it not? A. Yes.

Q How did you construe that particular element? [509]

A. Perhaps I don't understand your question but the particular words you have read I construed as calling for a lever, and then the claim goes on to state how it is mounted and the plurality of adjustable members I understood to relate to the cams or tappets which are shown in Leashman's drawings and are marked 61 and 62.

Q. They are referred to in Claim 1, aren't they, as a plurality of adjustable members pivoted to such lever? A. Yes.

Q. Did you have any difficulty in construing that expression to mean the tappet? A. No.

Mr. Flam: That is all.

Mr. L. S. Lyon: I have no further questions, Mr. Yungblut. Except for this matter of the applications to arrive, we have no further evidence, your Honor.

Mr. Flam: We have nothing further.

(Testimony of Gibson Yungblut.)

The Court: How long do you gentlemen want to argue?

Mr. Flam: How long do you want to argue, Mr. Lyon?

Mr. L. S. Lyon: The three points your Honor suggested yesterday afternoon I am prepared to argue.

The Court: I am frank to say, gentlemen, that I am not interested very much in a discussion of the facts. They are all quite fresh in the court's mind and as far as the testimony in this case is concerned there has been practically no conflict. At least I can't determine any [510] serious conflict betweeen the testimony of the witnesses on either side. It is going to be a problem for the court to try to get the law and the facts together in a way that it can work out maybe a just judgment. I am interested in having your records complete in this case so that any decision that I may render may be fairly placed before the Circuit Court of Appeals, so that, if I am in error, such injustice may be corrected. I have very definite conclusions relative to the facts in this case. I don't know whether I can gain more by submitting the matter on briefs and having you discuss it at length or whether I can come nearer rendering a judgment in accordance with the thoughts I have in mind at this time. This case has been my sole source of study for a week now and I have tried to read and study the

(Testimony of Gibson Yungblut.)

cases. As far as I know, there is no conflict in the court's mind as to any point of law. At least, I can't discover any except the one point that I raised yesterday and the point that you mentioned in your pretrial brief. So I am going to ask to hear from the parties at 2 o'clock. And I will be glad to hear any points that either one of the parties may desire to make. I want everybody to have their full say in the matter, as I do not wish anybody to feel that they have been shut out. Are those the lost exhibits that just came in?

Mr. Yungbult: These are the lost exhibits, if your [511] Honor please.

The Court: Do you wish to introduce them?

Mr. L. S. Lyon: Yes, your Honor. We can open them up first and see if they are what we ordered.

The Court: I would suggest in this regard that they be made available to counsel for the plaintiff and perhaps there can be a stipulation, after examination, as to the general contents of those applications. The court is primarily interested in ascertaining whether or not the defendant is claiming a patent on any of the matters covered by the plaintiff's patent. And, if counsel for the plaintiff may examine those applications, perhaps with Mr. Lyon's help and an understanding of the English language, you probably will be able to apprehend and determine their meaning.

Mr. Flam: I am afraid, your Honor, I can't do

(Testimony of Gibson Yungblut.)

it between now and 2 o'clock, with all of those file wrappers.

The Court: How many applications are involved?

Mr. Yungblut: I think there is the one which has already been introduced, a divisional case of that or a case of which that is a divisional part, I forget which, and one other case on an analogous or related structure, which I don't believe is really pertinent here.

Mr. Flam: May I inquire whether these are all of the applications that relate to mechanical push-button tuning that are now owned by the Crosley Radio Corporation? [512]

Mr. Yungblut: No; they are not.

Mr. L. S. Lyon: They are all the cases that involve the accused tuner, are they?

Mr. Yungblut: They are the only cases that involve the accused tuner.

Mr. Flam: How many of them did you say there are?

Mr. Yungblut: I haven't looked over these but I told the office to send everything there was. But what I just stated I think is correct.

Mr. L. S. Lyon: In other words, the main patent is already here and you have a certified copy of it. Do you think there is only one other?

Mr. Yungblut: There is a division of that.

Mr. L. S. Lyon: And one more?

Mr. Yungblut: And one more.

(Testimony of Gibson Yungblut.)

Mr. L. S. Lyon: You could look those over, certainly, between now and 2 o'clock.

Mr. Flam: Can't we agree we may file them say in a few days, to give us time to look them over?

The Court: Why don't you agree to do this, Mr. Flam? Let Mr. Yungblut make a statement of the subject matter of the patents now pending covering the accused device, and you then have an opportunity to examine the applications, and, if it is of any materiality in this case, it can be reopened. Personally, I am sorry that I raised the question and put the parties to the trouble that I have [513] because, according to my present thoughts, it is not very material.

Mr. Flam: I am afraid, your Honor, I don't quite agree with that. I think that point is quite material and there are decisions which relate to that feature, that particular thing that your Honor thought wasn't pertinent in the trial of this case, relating to what the defendant is doing about protecting—[514]

The Court: It wouldn't be material if the court does not pass upon the validity of this patent, would it?

Mr. Flam: It would be material from the standpoint of—well, I think that is true. If the patent is construed as valid, without that additional help that the other side is trying to get a patent on for

(Testimony of Gibson Yungblut.)

similar structures, then it would not be material.

Mr. L. S. Lyon: We can have Mr. Yungblut make such a statement at 2:00 o'clock and he can get these sorted out by that time.

Mr. Flam: I wouldn't like to have the case reopened just for that. I thought we could possibly agree on it.

The Court: As I stated before, there is every indication here that the facts have been fairly and squarely put before the court and that there is no conflict. For instance, take the conversations had between the plaintiff and the defendant. There was plenty of room there for serious conflicts on the subject matter of those conversations and so forth but there is apparently no serious dispute and on the rest of the matters there has been no serious dispute. I am satisfied in this case that, if one of you gentlemen would take the other one out to lunch, you could come back and be able to stipulate to it.

Mr. Flam: I think so as far as these file wrappers are concerned but I might have to spend a little more time with it. [515]

Mr. L. S. Lyon: Suppose we try showing them to you before 2:00 o'clock.

Mr. Flam: I don't like to have you try in that time but we can look them over say before Monday.

The Court: Gentlemen, unless there is some argument that throws confusion on my state of mind, I am going to decide this case this afternoon.

(Testimony of Gibson Yungblut.)

I will say, frankly, I don't find any advantage as far as I am concerned in having it submitted and delaying the matter. Unless there is something in the argument presented to me this afternoon that changes my present state of mind, or unless I want to give it more study, the court is ready to render its oral decision in this matter. So the case is either closed or not closed.

Mr. Flam: What would your Honor like to have me do? Would you like to have me look these over and approve of a stipulation?

The Court: No; I am not asking you to do anything. I am not foreclosing the parties from an opportunity to introduce those in evidence but I am not going to promise to read them because, unless there is an argument this afternoon on points that come up that changes the court's opinion, the materiality of them is of no concern to the court, that is, the contents. You gentlemen may come back at 2:00 o'clock.

(Recess until 2:00 o'clock p. m. of this day.) [516]

Afternoon Session.

2 o'Clock.

(Appearances as last noted.)

Mr. L. S. Lyon: We are ready to have Mr. Yungblut take the stand and identify these applications so they will be in the record. Will you take the stand again, Mr. Yungblut?

Did you want to make a statement, Mr. Flam?

Mr. Flam: As far as I am concerned, I am willing to rest the case without these file wrappers.

The Court: All right. Submitted.

Testimony Closed.

[Endorsed]: Filed Nov. 4, 1941. [517]

[Endorsed]: No. 9970. United States Circuit Court of Appeals for the Ninth Circuit. LeRoy J. Leishman, Appellant, vs. Associated Wholesale Electric Company, a corporation, Appellee. Transcript of Record. Upon Appeal from the District Court of the United States for the Southern District of California, Central Division.

Filed November 5, 1941.

PAUL P. O'BRIEN,

Clerk of the United States Circuit Court of Appeals for the Ninth Circuit.

United States Circuit Court of Appeals
for the Ninth Circuit

No. 9970

LEROY J. LEISHMAN,

Appellant

vs.

ASSOCIATED WHOLESALE ELECTRIC CO.

Appellee

CONCISE STATEMENT OF POINTS UPON WHICH APPELLANT, LEROY J. LEISHMAN, WILL RELY AS REQUIRED BY RULE 19(6) OF THIS COURT

Pursuant to and in accordance with Rule 19(6) of this Court, notice is hereby given that at the hearing of this appeal the appellant will rely on the following points:

I.

The District Court erred in finding that claims 7, 8, 9, 10 and 14 of the reissue patent in suit did not embody any invention over the prior art.

(a) This error occurs in Finding 23 of the Findings of Fact. The claims at issue relate to a mechanism for bringing a radio receiving set into tune with any one of a number of stations, as by the depression of a button. The mechanism includes a rotatable rocker operably connected to a condenser which is to be adjusted angularly in order to bring

the circuits of the set in tune to a specific station. The rocker is moved to this predetermined position by the aid of a tappet carried by a manually operable member. This tappet has a pair of oppositely directed arms arranged to contact respectively opposite sides of the rocker. Whenever it is desired to choose another station with which the circuits are to be placed in tune by operation of a button, the angular position of the tappet on its supporting member can be adjusted. In appellant's patent this adjustment is effected by adjusting the tappet angularly about a pivot support for the tappet. The evidence shows that this adjustment is greatly facilitated and made more accurate and definite when the axis of the tappet support falls on the said line as the axis of the rocker when the tappet and the rocker are in complete engagement. There is no conflict in the evidence relating to prior art practices; nor is there any conflict as to the importance of the necessity of being able accurately and easily to adjust this tappet. Accordingly the conclusion of the Court regarding lack of invention is one that can and should be reviewed by this tribunal.

(b) A high order of invention is involved first in the recognition of the problem involved in accurately and easily setting the tappet mechanism; this problem being solved by the specific relationship of the axis of the tappet and the axis of the rocker. The prior art is silent regarding this problem and left it unsolved.

(c) The evidence clearly falls short of the neces-

sary quality and quantity required to overcome the presumption of validity of the claims at issue.

(d) The prior art reference Marschalk patent contained in defendant's Exhibit J, and heavily relied upon by the defendant, shows a tappet and rocker mechanism in connection with a complicated program device enabling the user to determine periods during which preselected stations may be heard. Although Marschalk shows a rocker and tappet mechanism for adjusting the radio receiving set, this rocker and tappet are incapable of being set accurately or easily, and fail to include the features that render appellant's device useful.

(e) The Cunningham reference included in defendant's Exhibit J, and also heavily relied upon by the defendant, is one that relates to a foreign field; that is, a liquid level indicating device. The evidence shows that the structure of Cunningham could not be utilized for the purposes of applicant's structure, nor do the same situations with which appellant has to deal ever arise in the operation of the Cunningham device.

(f) The evidence shows that in spite of the availability of these prior art references, the Crosley Radio Corporation, who manufactured the accused device, was unable for a long time to arrive at the accused structure which, for the first time, satisfactorily supplied the demand for this type of device.

II.

The District Court erred in concluding that the prior examples of coaxiality would have been applied to tuning mechanism for radio receiving sets by ordinary skilled mechanics; and erred in failing to find that as a matter of fact highly skilled mechanics had failed to appreciate the problem prior to appellant's invention.

(a) As proof of this, the evidence is positive and weighty that a great and immediate commercial success was obtained for appellant's type of structure long after there was a need for a successful mechanical tuner device.

(b) The evidence shows that there was a new principle of coaction between appellant's coaxial tappet and rocker, of vastly different type than could be found in prior art examples of the use of coaxiality.

III.

The District Court erred in failing to find that appellee had knowledge of appellant's device prior to the development by appellee of the accused mechanism.

(a) In this connection Finding 8 is in error and contrary to the evidence. The evidence in fact shows that the defendant had access to a complete disclosure of appellant's invention prior to the time when defendant decided to switch from another type of tuner mechanism to one embodying a rocker and tappet mechanism.

IV.

The District Court's opinion is lacking in understanding the important principles upon which the invention is based; and is in error in citing purported examples of mechanisms that have no possible pertinence in this case; and yet these purported examples have been relied upon by the court as a basis for its opinion regarding lack of invention.

V.

The District Court erred in failing to find that the plaintiff intended to protect in original patent 2,108,538 the same invention as included in claims 7, 8, 9, 10 and 11 of the reissue patent in suit.

(a) Finding of Fact 18 is clearly contrary and inconsistent with all of the evidence on this point. The evidence shows that in the original patent 2,108,538 the coaxial relationship was shown in the drawings as well as described in the specification; furthermore, the evidence clearly shows that the reissue patent specifications are identical with that of the original patent.

VI.

The District Court erred in failing to find that appellant's new combination involved invention in spite of the fact that isolated elements of the combination could be found in other relationships.

(a) The evidence is conclusive that appellant's combination is novel and of great utility. The prior art showed examples of coaxiality but in relation-

ships other than in tuning mechanisms and it required a high order of invention to recognize that the solution of the problem faced by appellant was one which could be solved by specific cooperation of certain elements that assume at times a coaxial relationship.

VII.

The District Court erred in erroneously assuming that there is a dearth of invention in the field of mechanical tuning devices. This erroneous statement, present in the opinion, is reflected in Finding 12 and the District Court accordingly erred in finding that there was no unsatisfied demand for a long period of time for a radio tuning device of the character to which the patent in suit relates.

(a) The record is replete with evidence that there was on the contrary great activity in connection with attempts to solve the problem presented in mechanisms of this character and that there was a long and unsatisfied demand for such a device. The embodiment of the invention replaced substantially entirely the previous type of so-called telephone dial mechanism. This telephone dial mechanism based upon prior developments had swept the field shortly before the advent of appellant's form of tuner. The evidence shows that immediately upon the availability of appellant's tuner this makeshift telephone dial type of mechanism was immediately discarded. Defendant's witness Kilgore definitely substantiates this and there is no evidence to the contrary to be found in the record.

(b) The District Court bases its finding further upon the statement that "the development in the radio industry itself made it feasible to use an automatic tuner that they could not use before". As a matter of fact the evidence clearly shows that prior to the advent of appellant's type of tuner the radio industry had to invent an automatic frequency control circuit to make it possible to use the makeshift telephone dial type of tuner; and the evidence further clearly shows that upon the advent of appellant's type of tuner the makeshift telephone dial type of tuner and the automatic frequency circuit of necessity required with that makeshift tuner were discarded.

VIII.

The evidence shows that the plunger of the accused device passes through an opening in the rocker. In the opinion the District Court states that it would have been very difficult to use a push button or plunger that would not have to pass through the rocker when the rocker and tappet were brought into full engagement, and that it was the natural thing to do and in so doing the parts became coaxial. As a matter of fact examples of mechanisms have been referred to by appellant Leishman in his testimony in which the rocker and the tappet are coaxial and yet the plunger does not pass through the rocker; and when the tappet DOES pass through the rocker, the evidence shows that these parts do not become coaxial as a matter of course,

but that they must be especially designed to permit the coaxial relationship.

IX.

The District Court erred in making the statement (Finding 14) that the adoption of the push button or plunger means of operation was one of the primary factors of the success of the accused structure; and that the work of the Crosley Corporation created the demand for tuners of the accused type.

(a) The evidence shows that it was not at all essential to utilize a plunger type of mechanism in order to secure compactness. One example of the lever type of mechanism much more compact than the accused device is defendant's Exhibit G. The success of the accused device arose from the adoption of the principles covered by the reissue patent in suit, and the immediate adoption by the industry of the type of tuner disclosed in the patent in suit constitutes compelling evidence of invention.

X.

The District Court erred in making the finding embodied in Finding 7 to the effect that plaintiff conferred with certain officials of the Crosley Corporation and attempted to interest them in patent 2,084,851. As a matter of fact the evidence shows that what plaintiff was trying to do was to interest the Crosley Corporation in the use of a two-point positioning device as distinguished from a one-point positioning device that the Crosley Corpora-

tion was then in the process of developing. Patent No. 2,084,851, Plaintiff's Exhibit 31, had to do only with an incidental feature and did not constitute any major subject matter of discussion with the Crosley Corporation officials.

Wherefore appellant prays that the judgment of the District Court be reversed and that this Court hold claims 7, 8, 9, 10 and 11 of the patent in suit valid.

JOHN FLAM
Attorney for Appellant

Received copy of the within Concise Statement of Points etc. this 24th day of October, 1941.

LEONARD S. LYON
Attorney for Appellee

[Endorsed]: Filed Nov. 5, 1941. Paul P. O'Brien, Clerk.

[Title of Circuit Court of Appeals and Cause.]

STIPULATION FOR DESIGNATION ON APPEAL UNDER RULE 19(6) OF THIS COURT

The parties to this appeal, through their respective counsel, hereby stipulate that the following shall constitute the designated parts of the record which they think necessary for the consideration of the appeal, said parts to be printed from the records, proceedings and evidence contained in the record on appeal transmitted by the Clerk of the United States District Court for the Southern Dis-

trict of California, Central Division, pursuant to the stipulation and order dated October 24, 1941.

1. Bill of Complaint.
2. Answer to bill of complaint.
3. Amendment to answer.
4. Interrogatories propounded by plaintiff pursuant to Rule 33, but including only the following: 1, 2, 3, 16, 17, 25, 26 and 32.
5. Defendant's answers to plaintiff's interrogatories 1, 2, 3, 16, 17, 25, 26 and 32.
6. Opinion of Hon. Ben Harrison.
7. Findings of fact and conclusions of law.
8. Final judgment dated May 1, 1941.
9. Order for enlargement of time under Rule 6(b) of the Federal Rules of Civil Procedure.
10. Notice of hearing on motion under Rule 52(b) of the Federal Rules of Civil Procedure.
11. Motion under Rule 52(b) of the Federal Rules of Civil Procedure for the District Court of the United States.
12. Minute order on motion under Rule 52(b) of the Federal Rules of Civil Procedure for the District Court of the United States.
13. Plaintiff's notice of appeal.
14. Tender of cash in lieu of bond on appeal.
15. Stipulation and order for transmittal of the records, proceedings and evidence.
16. This stipulation.

17. Plaintiff's concise statement on points under Rule 19(6) of this Court,

18. The following Reporter's Transcript, referred to by page and line:

Page 31, line 1 to page 35, line 7;

Page 35, line 16 to page 36, line 5;

Page 37, line 1 to page 38, line 16;

Page 38, line 18 to page 41, line 17;

Page 41, line 20 to page 44, line 3;

Rewrite line 4 of page 44 as follows: "are pages 20 and 21 but also, in ink on the outside of";

Page 44, line 5 to page 44, line 15;

Page 45, line 6 to page 62, line 12;

Page 62, line 20 to page 63, line 12;

Page 65, line 5 to page 69, line 19;

Rewrite line 20, page 69, to read as follows: "A. No. This is something different. On page 6 which";

Page 69, line 21 to page 70, line 20;

Rewrite page 70, line 21, as follows: "ever, upon these representations. I offer page 6.";

Page 70, line 22 to page 103, line 14;

Page 103, line 18 to page 151, line 23;

Page 154, line 3 to page 157, line 13;

Page 158, line 2 to page 209, line 9;

Page 211, line 9 to page 267, line 16;

Rewrite line 17 on page 267 to read: "page and page 2019 of Knight's Mechanical Dictionary. In";

Page 267, line 18 to page 288, line 2;

Page 290, line 14 to page 398, line 6;
Page 399, line 2 to page 517, line 13.

19. The following designated plaintiff's exhibits (or portions thereof) to be contained in a book of exhibits:

1
2
Pages 20 and 21 of Exhibit 4
Inside back cover of Exhibit 6
9
Pages 1 and 10 of Exhibit 11
Page 6 of Exhibit 13
14
15
16
Page 67 of Exhibit 18
22a
24
26
27
28
29
30
31
Inside back cover of Exhibit 32
Page 141 of Exhibit 33
Page 43 of Exhibit 34
Page 15 of Exhibit 35
36
37
38.

20. The following designated defendant's exhibits (or portions thereof) to be contained in a book of exhibits:

C
D
J

Exhibits included in the depositions taken on behalf of defendant in Cincinnati, Ohio, said exhibits being hereinafter designated as Cincinnati Exhibits 1, 2, 3, 4, 6, 7, 7A, 7B, 8, 9, 10, 11, 12, 13, 13A to 13E inclusive, 14, 15, 16, 17 and 18.

21. Plaintiff's physical exhibits:

3
7
8
10
17
19
20
22
23
25

22. Plaintiff's documentary exhibits designated as physical exhibits by order of this court heretofore transmitted to this court pursuant to the stipulation and order for transmittal of the records, proceedings and evidence:

5
12
21
39

23. Defendant's physical exhibits:

A
B
E
F
G
K
L
M
N

24. Defendant's documentary exhibits designated as physical exhibits by order of this court heretofore transmitted to this court pursuant to the stipulation and order for transmittal of the records, proceedings and evidence:

H
I

Defendant's Cincinnati Exhibit 5.

25. Order designating certain of plaintiff's and defendant's documentary exhibits to be physical exhibits on appeal.

26. Stipulation dated October 6, 1941, for extending the time to and including the 14th day of November, 1941, for plaintiff to file a Transcript of Record on Appeal.

It is further stipulated that the Clerk of the Court shall cause to be printed sixteen (16) copies of the Book of Exhibits which shall include plaintiff's and defendant's documentary exhibits heretofore specified as such documentary exhibits. Two

(2) copies of said Book of Exhibits shall be supplied to counsel for LeRoy J. Leishman and four (4) copies to counsel for Associated Wholesale Electric Company, and the remainder to be retained by the Clerk of this court to form a part of the record on appeal.

Dated this 23rd day of October, 1941.

JOHN FLAM
Attorney for Appellant
LEONARD S. LYON,
GIBSON YUNGBLUT
Attorneys for Appellee

[Endorsed]: Filed Nov. 5, 1941. Paul P. O'Brien, Clerk.

[Title of Circuit Court of Appeals and Cause.]

STIPULATION AND ORDER DESIGNATING CERTAIN DOCUMENTARY EXHIBITS TO BE PHYSICAL EXHIBITS FOR THE RECORD ON APPEAL

It Is Stipulated by and between counsel for the respective parties that plaintiff's documentary exhibits 5, 12, 21 and 39, and defendant's documentary exhibits H, I and Cincinnati Exhibit 5, because of the size, number of pages and cost of printing of exhibits 5, 12, 21, 39, H and I, and because of the difficulty to reproduce the blueprint comprising Cincinnati Exhibit 5, shall constitute physical exhibits for the record on appeal; and all of these

exhibits shall be considered by the Court in their original form as though set out in the printed record.

JOHN FLAM
Attorney for Appellant
LEONARD S. LYON
GIBSON YUNGBLUT
Attorneys for Appellee

It Is So Ordered this 10th day of November 1941.

CURTIS D. WILBUR
Senior U. S. Circuit Judge

[Endorsed]: Filed Nov. 10, 1941. Paul P. O'Brien, Clerk.

[Title of Circuit Court of Appeals and Cause.]

SUPPLEMENTAL STIPULATION AND ORDER DESIGNATING FURTHER DOCUMENTARY EXHIBITS TO BE PHYSICAL EXHIBITS FOR THE RECORD ON APPEAL.

It Is Further Stipulated by and between counsel for the respective parties that defendants-appellee's documentary Exhibits 3 and 15, attached to its Cincinnati depositions, shall constitute physical exhibits for the record on appeal, without the necessity of including them in the Book of Exhibits; and these Exhibits 3 and 15 shall be considered by the Court

in their original form as though set out in the printed record.

It is also stipulated that this stipulation shall be included in the printed record on appeal.

JOHN FLAM
Attorney for Appellant
GIBSON YUNGBLUT
LEONARD S. LYON
Attorneys for Appellee

It Is So Ordered this 18th day of November, 1941.

CURTIS D. WILBUR
Senior U. S. Circuit Judge

[Endorsed]: Filed Nov. 18, 1941. Paul P. O'Brien, Clerk.